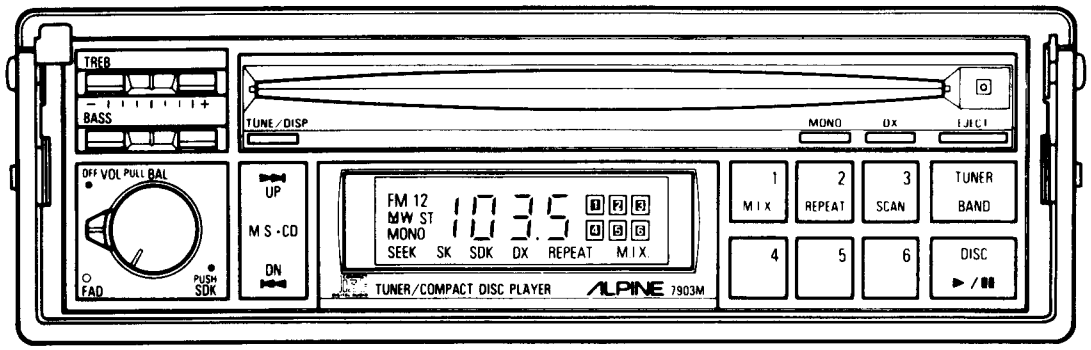
ALPINE SERVICE MANUAL

Digital FM/MW/LW Compact Disc Player

REVISED

- Serial Numbers after No. 90717701.
- For the CD player mechanism parts of this model, refer to the Service Manual · DP-S Series (Part No. 68P13315W02).



7903M

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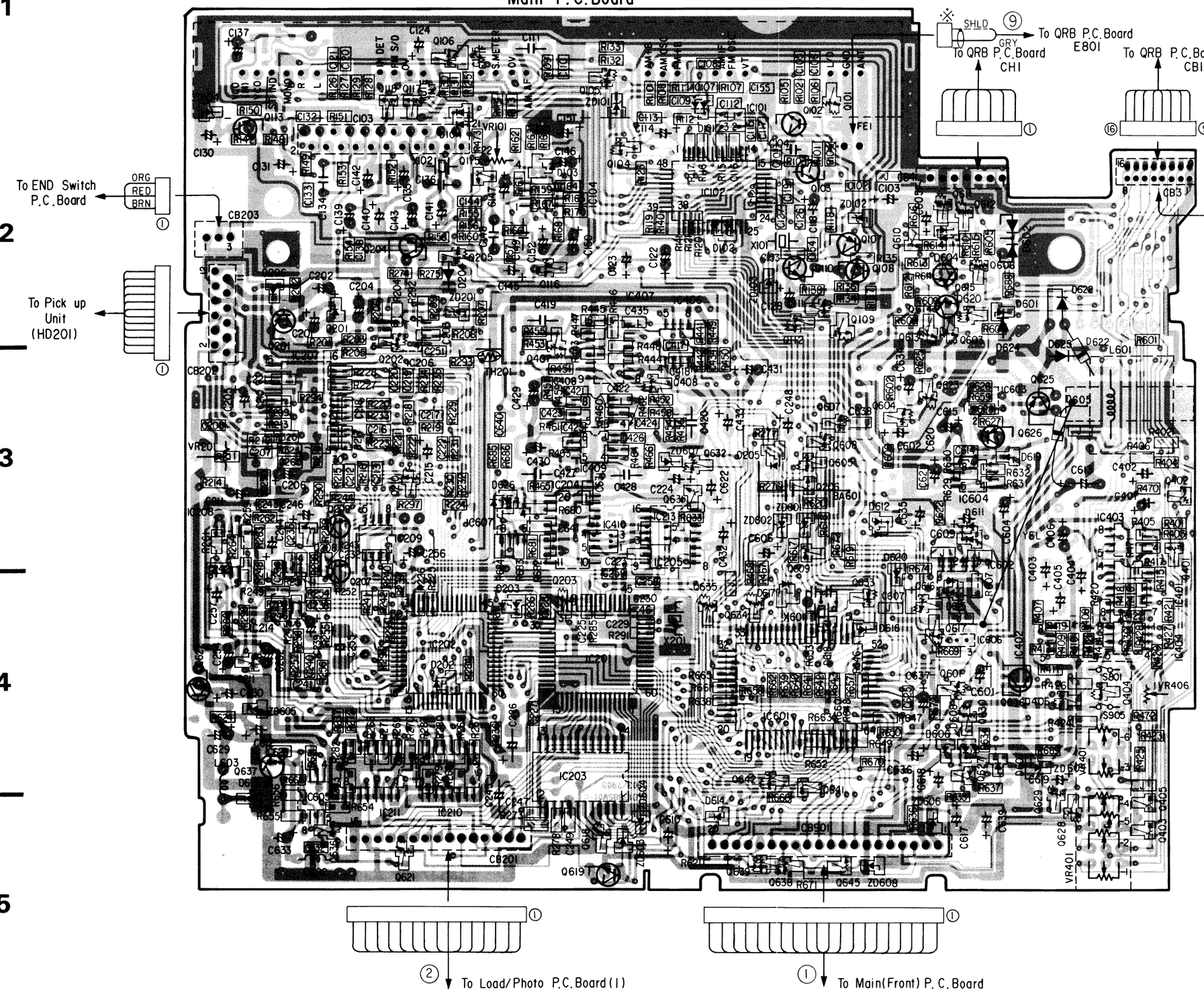
Parts Layout on P.C. Boards and Wiring Diagram (1/2)

Main P.C.Board



IC101

1	0V
2	3.7V
3	1.5V
4	1V

IC102

1	1.2V	25	0V
2	0V	26	4.5V/1V
3	5V	27	1V/5V
4	0V	28	0V
5	2V	29	0V
6	5V/0V	30	0V
7	5V/0V	31	0V
8	5V/0V	32	0V
9	0V	33	0V
10	0V	34	5V/0V
11	0V	35	PS
12	0V/PS	36	PS
13	0V	37	PS
14	0V/PS	38	0V/PS
15	PS	39	0V
16	PS	40	0V
17	PS	41	0V
18	5V/0V	42	0V
19	0V/5V	43	
20	PS	44	
21	PS	45	4V/0V
22	0V	46	4V/0V
23	0V	47	0V
24	5V	48	5V

IC103

1	8.3V
2	2.1V
3	2.1V
4	0V
5	2.1V
6	1.4V
7	2.1V
8	2.6V
9	3V
10	0V
11	0.6V
12	2.9V
13	2.9V
14	2.9V
15	2.4V
16	0V
17	0V
18	3.1V
19	3V
20	3V
21	3V
22	4.1V

IC104

1	4.2V	5	5.2V
2	4.2V	6	5.2V
3	4.2V	7	1.3V
4	0V	8	8.6V

IC401

1	4.4V	6	8.7V	11	4.4V
2	4.4V	7	0V	12	0V
3	4.4V	8	4.4V	13	0V
4	4.4V	9	4.4V	14	8.7V
5	8.7V	10	4.4V		

IC402

1	4.4V
2	4.4V
3	4.4V
4	0V
5	4.4V
6	4.4V
7	4.4V
8	8.9V

IC403

1	4.4V
2	4.4V
3	4.4V
4	0V
5	4.4V
6	4.4V
7	4.4V
8	8.9V

IC404

1	4
2	4
3	4
4	
5	4
6	4
7	4
8	8

IC406

1	4.4V
2	4.4V
3	4.4V
4	0V
5	4.4V
6	4.4V
7	4.4V
8	8.7V

IC407

1	4.4V	9	0V
2	4.4V	10	0V
3	4.4V	11	0V
4	0V	12	4.4V
5	3.5V	13	4.4V
6	0V	14	4.4V
7	0V	15	1.1V
8	0V	16	8.9V

IC408

1	4.7V
2	4.7V
3	4.6V
4	0V
5	1.3V
6	4.7V
7	4.7V
8	8.9V

IC409

1	4.7V
2	4.7V
3	3.1V
4	0V
5	3.1V
6	4.7V
7	4.7V
8	8.7V

IC410

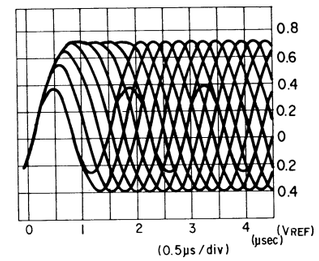
1	0V
2	PS
3	0V
4	PS
5	5V

IC601

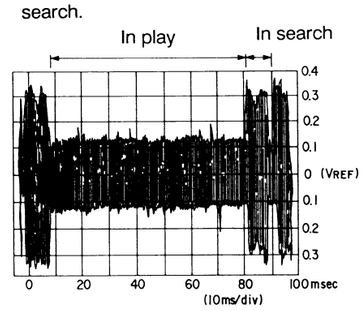
1	0V/5V	23	2.2V/0V	45	PS
2	0V/5V	24	3.6V/0V	46	4.6V/0
3	0V/5V	25	0V	47	0V/5
4	0V/5V	26	0V	48	4.6V/0
5	PS	27	0V	49	5V/0
6	PS	28	0V	50	4.9V/0
7	PS	29	3.6V/0V	51	PS
8	PS	30	3.6V/0V	52	PS
9	PS	31	0V/PS	53	PS
10	4.8V	32	0V/4.9V	54	4.9V/0
11	0V/5V	33	0V/4.2V	55	4.5V/0
12	4.8V/0V	34	PS	56	4.3V/0
13	PS	35	4.9V	57	4.3V/0
14	PS	36	4.9V/0V	58	4.9V
15	PS	37	0V/4.9V	59	4.9V
16	5V/0V	38	4.9V/0V	60	0V
17	0V/5V	39	4.8V/0V	61	0V/4.9
18	0V/5V	40	4.8V/0V	62	–
19	0V/5V	41	5V/0V	63	–
20	0V/5V	42	0V/PS	64	–
21	3.9V/0V	43	5V/0V		
22	0V/5V	44	PS		

62,63,64
1/6 VDD,2/6 VDD,3/6 VDD,4/6 VDD,5/6 VDD ,VDD

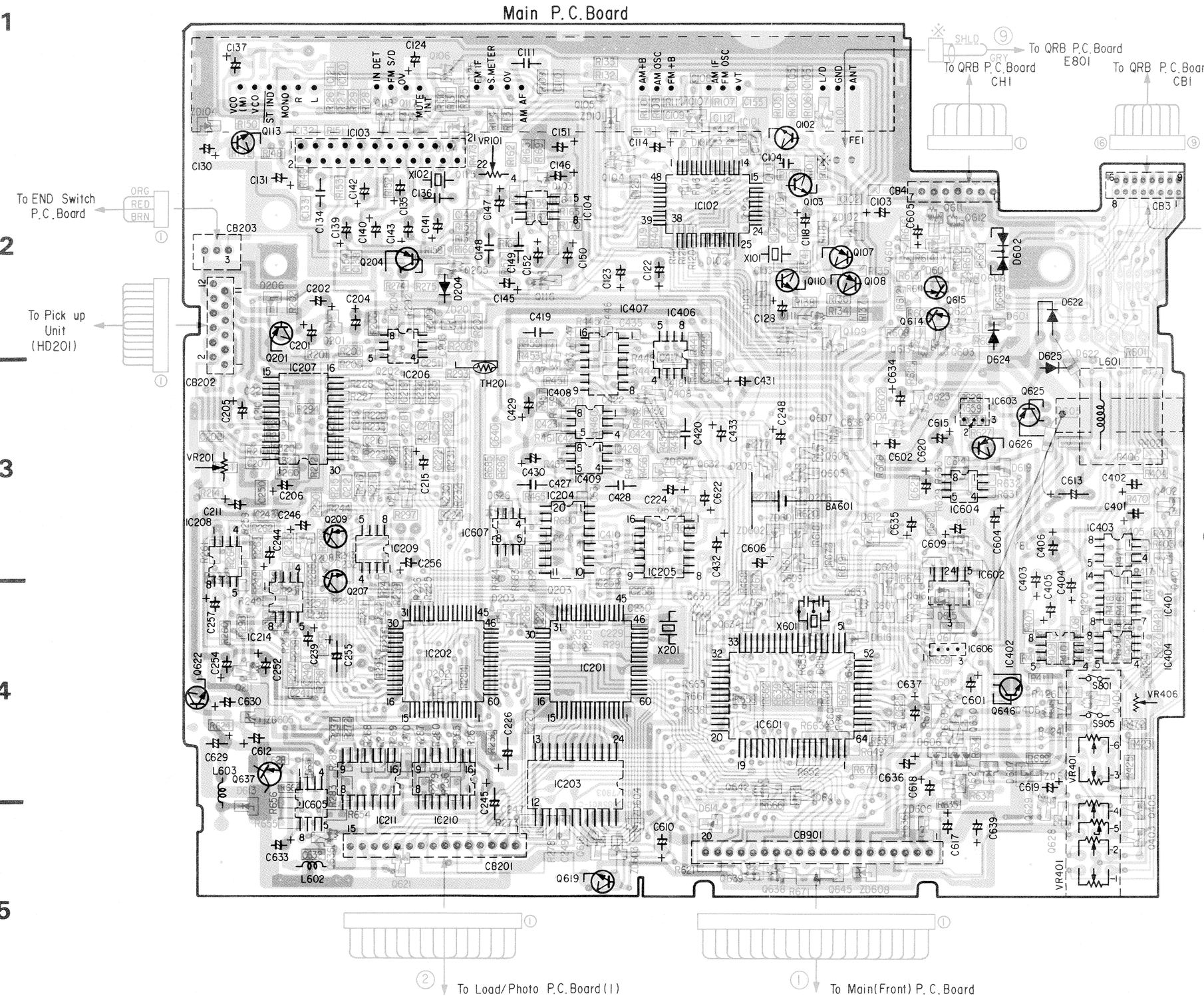
(i) Waveform at RFO terminal (No. 10 pin of IC701, TA8101F), when unit in play.



(ii) Waveform at TSO terminal (No. 22 pin of IC701, TA8101F), when unit in play/search.



Parts Layout on P.C. Boards and Wiring Diagram (1/2)



IC101	
1	0V
2	3.7V
3	1.5V
4	1V

IC104			
1	4.2V	5	5.2V
2	4.2V	6	5.2V
3	4.2V	7	1.3V
4	0V	8	8.6V

IC102			
1	1.2V	25	0V
2	0V	26	4.5V/1V
3	5V	27	1V/5V
4	0V	28	0V
5	2V	29	0V
6	5V/0V	30	0V
7	5V/0V	31	0V
8	5V/0V	32	0V
9	0V	33	0V
10	0V	34	5V/0V
11	0V	35	PS
12	0V/PS	36	PS
13	0V	37	PS
14	0V/PS	38	0V/PS
15	PS	39	0V
16	PS	40	0V
17	PS	41	0V
18	5V/0V	42	0V
19	0V/5V	43	
20	PS	44	
21	PS	45	4V/0V
22	0V	46	4V/0V
23	0V	47	0V
24	5V	48	5V

IC103			
1	8.3V		
2	2.1V		
3	2.1V		
4	0V		
5	2.1V		
6	1.4V		
7	2.1V		
8	2.6V		
9	3V		
10	0V		
11	0.6V		
12	2.9V		
13	2.9V		
14	2.9V		
15	2.4V		
16	0V		
17	0V		
18	3.1V		
19	3V		
20	3V		
21	3V		
22	4.1V		

IC401					
1	4.4V	6	8.7V	11	4.4V
2	4.4V	7	0V	12	0V
3	4.4V	8	4.4V	13	0V
4	4.4V	9	4.4V	14	8.7V
5	8.7V	10	4.4V		

IC402	
1	4.4V
2	4.4V
3	4.4V
4	0V
5	4.4V
6	4.4V
7	4.4V
8	8.7V

IC403	
1	4.4V
2	4.4V
3	4.4V
4	0V
5	4.4V
6	4.4V
7	4.4V
8	8.9V

IC404	
1	4.4V
2	4.4V
3	4.4V
4	0V
5	4.4V
6	4.4V
7	4.4V
8	8.7V

IC406	
1	4.4V
2	4.4V
3	4.4V
4	0V
5	4.4V
6	4.4V
7	4.4V
8	8.7V

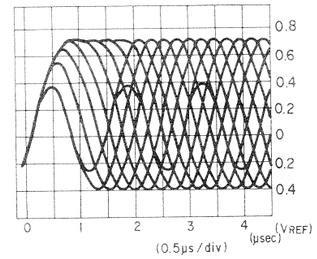
IC407			
1	4.4V	9	0V
2	4.4V	10	0V
3	4.4V	11	0V
4	0V	12	4.4V
5	3.5V	13	4.4V
6	0V	14	4.4V
7	0V	15	1.1V
8	0V	16	8.9V

IC408	
1	4.7V
2	4.7V
3	4.6V
4	0V
5	1.3V
6	4.7V
7	4.7V
8	8.9V

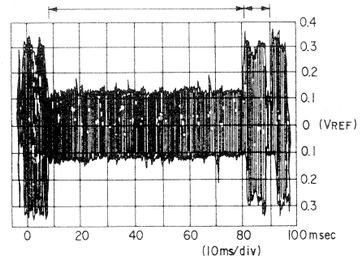
IC409	
1	4.7V
2	4.7V
3	3.1V
4	0V
5	3.1V
6	4.7V
7	4.7V
8	8.7V

IC410	
1	0V
2	PS
3	0V
4	PS
5	5V

(i) Waveform at RFO terminal (No. 10 pin of IC701, TA8101F), when unit in play.



(ii) Waveform at TSO terminal (No. 22 pin of IC701, TA8101F), when unit in play/search.

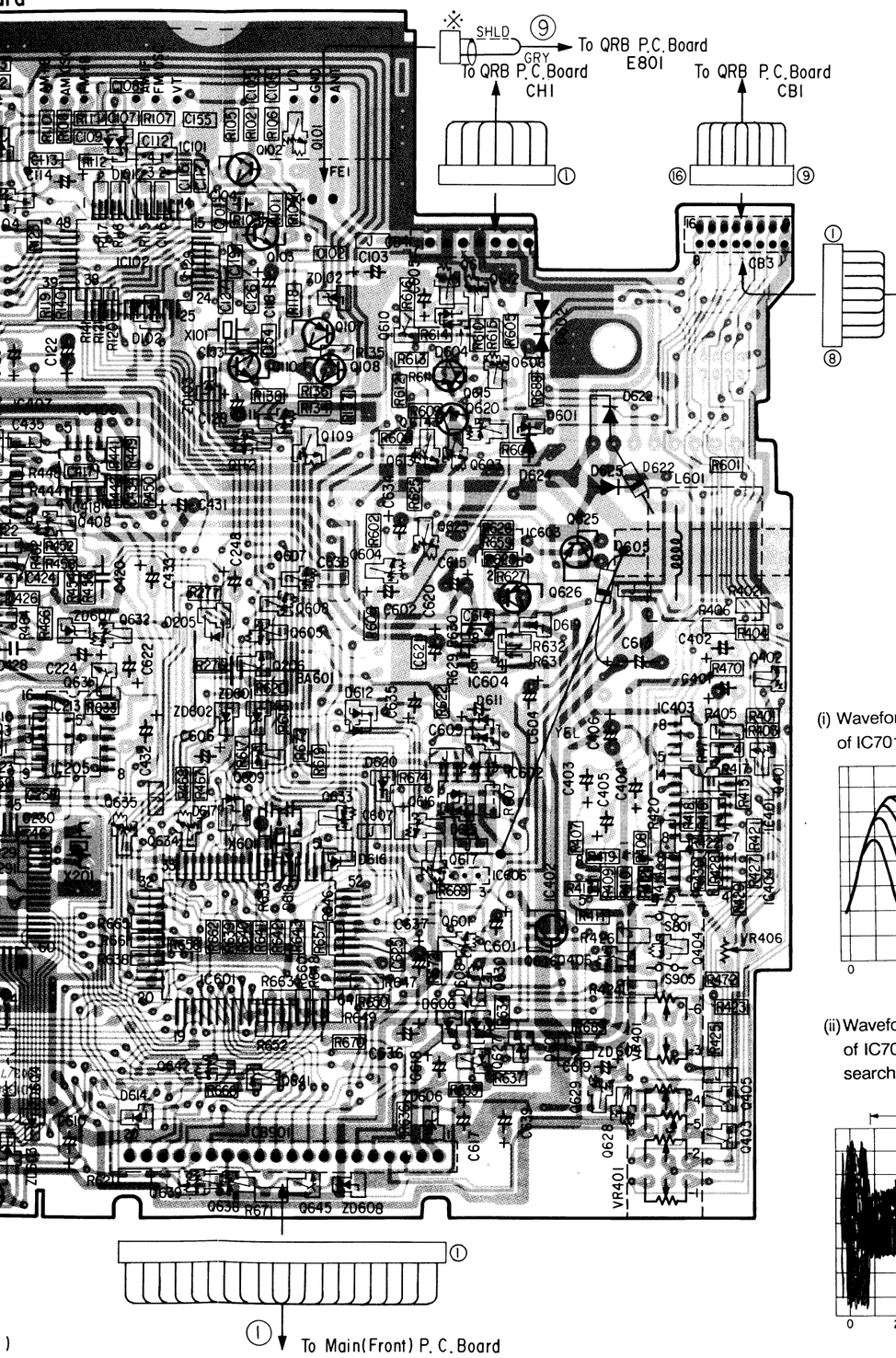


IC601					
1	0V/5V	23	2.2V/0V	45	PS
2	0V/5V	24	3.6V/0V	46	4.6V/0
3	0V/5V	25	0V	47	0V/5V
4	0V/5V	26	0V	48	4.6V/0
5	PS	27	0V	49	5V/0V
6	PS	28	0V	50	4.9V/0
7	PS	29	3.6V/0V	51	PS
8	PS	30	3.6V/0V	52	PS
9	PS	31	0V/PS	53	PS
10	4.8V	32	0V/4.9V	54	4.9V/0
11	0V/5V	33	0V/4.2V	55	4.5V/0
12	4.8V/0V	34	PS	56	4.3V/0
13	PS	35	4.9V	57	4.3V/0
14	PS	36	4.9V/0V	58	4.9V
15	PS	37	0V/4.9V	59	4.9V
16	5V/0V	38	4.9V/0V	60	0V
17	0V/5V	39	4.8V/0V	61	0V/4.9
18	0V/5V	40	4.8V/0V	62	–
19	0V/5V	41	5V/0V	63	–
20	0V/5V	42	0V/PS	64	–
21	3.9V/0V	43	5V/0V		
22	0V/5V	44	PS		

62,63,64
1/6 VDD,2/6 VDD,3/6 VDD,4/6 VDD,5/6 VDD ,VDD

agram (1/2)

ard



IC101

1	0V
2	3.7V
3	1.5V
4	1V

IC104

1	4.2V	5	5.2V
2	4.2V	6	5.2V
3	4.2V	7	1.3V
4	0V	8	8.6V

IC102

1	1.2V	25	0V
2	0V	26	4.5V/1V
3	5V	27	1V/5V
4	0V	28	0V
5	2V	29	0V
6	5V/0V	30	0V
7	5V/0V	31	0V
8	5V/0V	32	0V
9	0V	33	0V
10	0V	34	5V/0V
11	0V	35	PS
12	0V/PS	36	PS
13	0V	37	PS
14	0V/PS	38	0V/PS
15	PS	39	0V
16	PS	40	0V
17	PS	41	0V
18	5V/0V	42	0V
19	0V/5V	43	
20	PS	44	
21	PS	45	4V/0V
22	0V	46	4V/0V
23	0V	47	0V
24	5V	48	5V

IC103

1	8.3V		
2	2.1V		
3	2.1V		
4	0V		
5	2.1V		
6	1.4V		
7	2.1V		
8	2.6V		
9	3V		
10	0V		
11	0.6V		
12	2.9V		
13	2.9V		
14	2.9V		
15	2.4V		
16	0V		
17	0V		
18	3.1V		
19	3V		
20	3V		
21	3V		
22	4.1V		

IC203

1	PS	13	PS
2	PS	14	PS
3	PS	15	PS
4	PS	16	PS
5	PS	17	PS
6	PS	18	0V
7	PS	19	PS
8	PS	20	PS
9	PS	21	PS
10	PS	22	PS
11	PS	23	PS
12	0V	24	5V

IC204

1	2.3V	11	1.2V
2	2.3V	12	0V
3	2.3V	13	0V
4	2.3V	14	2.3V
5	2.3V	15	0V
6	0V	16	0V
7	0V	17	0V
8	0V	18	0V
9	0.4V	19	0V
10	2.3V	20	1.5V

IC205

1	PS	9	5V
2	PS	10	PS
3	5V	11	PS
4	PS	12	PS
5	PS	13	PS
6	0V	14	PS
7	PS	15	PS
8	0V	16	5V

IC206

1	0.6V		
2	5V		
3	2.6V		
4	0V		
5	0.2V/0V		
6	0.2V		
7	2.8V		
8	5V		

IC207

1	2V	11	2.2V	21	2.2V
2	2V	12	2.2V	22	2.2V
3	2.2V	13	2.2V	23	2.2V
4	2V	14	0V	24	2.2V
5	2V	15	PS	25	2.2V
6	2V	16	1V	26	2.8V
7	2V	17	PS	27	2.2V
8	5V	18	1V	28	2.2V
9	2V	19	PS	29	2.2V
10	2V	20	2.5V	30	2.2V

IC208

1	2.2V
2	2.2V
3	2.2V
4	0V
5	2.2V
6	2.2V
7	2.2V
8	5V

IC209

1	2.5V
2	2.5V
3	2.5V
4	0V
5	4.1V
6	4.1V
7	3.5V
8	8V

IC210

1	0V	9	0V
2	0V	10	0V
3	4.5V	11	4V
4	8V	12	4V
5	4V	13	4V
6	0V	14	4V
7	0V	15	0V
8	0V	16	0V

IC211

1	0V	9	0V
2	0V	10	0V
3	2.5V	11	4V
4	8V	12	4V
5	4V	13	4V
6	0V	14	4V
7	0V	15	0V
8	0V	16	0V

IC213

1	0V
2	PS
3	0V
4	PS
5	5V

IC214

1	2.2V
2	2.2V
3	2.2V
4	0V
5	2.2V
6	2.2V
7	2.2V
8	5V

IC401

1	4.4V	6	8.7V	11	4.4V
2	4.4V	7	0V	12	0V
3	4.4V	8	4.4V	13	0V
4	4.4V	9	4.4V	14	8.7V
5	8.7V	10	4.4V		

IC402

1	4.4V
2	4.4V
3	4.4V
4	0V
5	4.4V
6	4.4V
7	4.4V
8	8.7V

IC403

1	4.4V
2	4.4V
3	4.4V
4	0V
5	4.4V
6	4.4V
7	4.4V
8	8.9V

IC404

1	4.4V
2	4.4V
3	4.4V
4	0V
5	4.4V
6	4.4V
7	4.4V
8	8.7V

IC406

1	4.4V
2	4.4V
3	4.4V
4	0V
5	4.4V
6	4.4V
7	4.4V
8	8.7V

IC407

1	4.4V	9	0V
2	4.4V	10	0V
3	4.4V	11	0V
4	0V	12	4.4V
5	3.5V	13	4.4V
6	0V	14	4.4V
7	0V	15	1.1V
8	0V	16	8.9V

IC408

1	4.7V
2	4.7V
3	4.6V
4	0V
5	1.3V
6	4.7V
7	4.7V
8	8.9V

IC409

1	4.7V
2	4.7V
3	3.1V
4	0V
5	3.1V
6	4.7V
7	4.7V
8	8.7V

IC410

1	0V
2	PS
3	0V
4	PS
5	5V

IC201

1	PS	11	PS	21	0V	31	0V	41	PS	51	5V
2	PS	12	PS	22	0V	32	PS	42	PS	52	5V
3	PS	13	PS	23	5V	33	PS	43	PS	53	5V
4	PS	14	PS	24	5V	34	PS	44	PS	54	0V
5	PS	15	PS	25	PS	35	PS	45	PS	55	5V
6	PS	16	PS	26	PS	36	5V	46	0V	56	PS
7	PS	17	PS	27	PS	37	0V	47	PS	57	PS
8	PS	18	5V	28	PS	38	PS	48	PS	58	PS
9	PS	19	5V	29	PS	39	PS	49	5V	59	PS
10	PS	20	0V	30	0V	40	PS	50	5V	60	PS

IC202

1	PS	11	PS	21	PS	31	0V/PS	41	0V	51	PS
2	5V/0V	12	2.2V	22	2.2V	32	0V/4.9V	42	PS	52	PS
3	5V/0V	13	2.2V	23	5V	33	0V/4.2V	43	PS	53	PS
4	PS	14	2.2V	24	2.2V	34	PS	44	PS	54	4.9V/0V
5	PS	15	2.2V	25	2.2V	35	4.9V	45	5V	55	4.5V/0V
6	PS	16	2.2V	26	2.2V	36	4.9V/0V	46	5V	56	4.3V/0V
7	2.2V	17	2.2V	27	2V	37	0V/4.9V	47	PS	57	4.3V/0V
8	1V	18	2.2V	28	PS	38	4.9V/0V	48	PS	58	4.9V
9	PS	19	2.6V	29	PS	39	4.8V/0V	49	PS	59	4.9V
10	1V	20	2V	30	2.2V	40	4.8V/0V	50	PS	60	0V

IC602

1	14V
2	7.8V
3	0.6V
4	5.7V
5	5.7V

IC603

1	13.5V
2	0V
3	1.3V

IC604

1	8.2V
2	0.4V
3	2.4V
4	0V
5	4.3V
6	4.4V
7	4.4V
8	8.7V

IC605

1	PS
2	0V
3	PS
4	0V
5	1.3V
6	13.9V
7	13.9V
8	PS

IC606

1	5V/0V
2	5V
3	0V

IC607

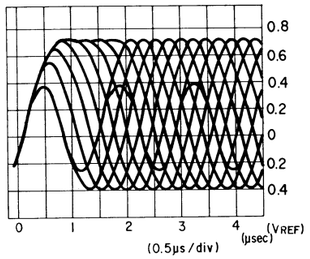
1	4V
2	1V
3	4V
4	0V
5	3V
6	1V
7	4V
8	4.6V

IC601

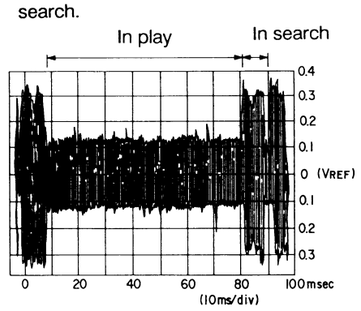
1	0V/5V	23	2.2V/0V	45	PS
2	0V/5V	24	3.6V/0V	46	4.6V/0V
3	0V/5V	25	0V	47	0V/5V
4	0V/5V	26	0V	48	4.6V/0V
5	PS	27	0V	49	5V/0V
6	PS	28	0V	50	4.9V/0V
7	PS	29	3.6V/0V	51	PS
8	PS	30	3.6V/0V	52	PS
9	PS	31	0V/PS	53	PS
10	4.8V	32	0V/4.9V	54	4.9V/0V
11	0V/5V	33	0V/4.2V	55	4.5V/0V
12	4.8V/0V	34	PS	56	4.3V/0V
13	PS	35	4.9V	57	4.3V/0V
14	PS	36	4.9V/0V	58	4.9V
15	PS	37	0V/4.9V	59	4.9V
16	5V/0V	38	4.9V/0V	60	0V
17	0V/5V	39	4.8V/0V	61	0V/4.9V
18	0V/5V	40	4.8V/0V	62	–
19	0V/5V	41	5V/0V	63	–
20	0V/5V	42	0V/PS	64	–
21	3.9V/0V	43	5V/0V		
22	0V/5V	44	PS		

62,63,64
1/6 VDD,2/6 VDD,3/6 VDD,4/6 VDD,5/6 VDD ,VDD

(i) Waveform at RFO terminal (No. 10 pin of IC701, TA8101F), when unit in play.



(ii) Waveform at TSO terminal (No. 22 pin of IC701, TA8101F), when unit in play/search.



	E	C	B		E	C	B
Q101	0V	6.6V/0V	4.7V/0V	Q606	14V	14V	0V
Q102	0.1V	1.1V~7.4V	0.7V	Q607	0V/0V	4.7V/0V	0V/14.4V
Q103	0.7V	9.4V	1.1V	Q608	0V/0V	4.7V/0V	0V/14.4V
Q105	0V	0V	6.7V/0V	Q609	14.2V	14.2V	7.3V
Q106	0V	0V/7.7V	0V/4.7V	Q610	14V	14V	13.3V
Q107	8.8V	8.7V/0V	8.8V/8.1V	Q611	0V	0V	10V
Q108	8.8V	8.8V/1.4V	8.6V/8.1V	Q612	0V	0V	9.7V
Q109	0V	8.6V/0V	4.4V/1V	Q613	0V	0.1V	4.3V
Q110	8.8V	14V	9.4V	Q614	14V	14V	13.3V
Q111	0V/13V	13.9V/0V	0V/14V	Q615	14V	14V	13.4V
Q112	0V	0V/13.6V	5.1V/0V	Q616	0V	0V	4.5V
Q113	8.6V	13.7V	9.2V	Q617	5.1V	4.9V	0V
Q115	1V	2.9V	1.6V	Q618	0V	4V	0V
Q116	0V	3.3V	0.6V	Q619	7.6V	14V	8.2V
Q201	3.6V	1.9V	3V	Q621	0V	0V	3.9V
Q202	5.2V	0.3V	5.1V	Q922	5.1V	8.3V	5.7V
Q203	0V	2.2V	0V	Q623	0V	0.4V	3.3V
Q204	14V	0V	3.4V	Q625	14.1V	14.1V	13.4V
Q205	0V	14V	0V	Q626	14.1V	8.7V	13.5V
Q206	0V	0V	0V	Q627	10V	0.3V	10V
Q207	4.1V	8.3V	4.7V	Q629	0V	14V	0V
Q208	3.5V	4.7V	4.1V	Q630	0V	0V	4.3V
Q209	0V	4.1V	3.5V	Q631	2.4V	8.7V	3V
Q210	2.2V/2.2V	2.3V/2.3V	4.8V/0V	Q632	3V	0V	0V
Q211	2.3V	2.3V	5V	Q633	5.7V	4.5V	5.7V
PT301	0V	5V/0V	–	Q634	0V	8.7V	0V
PT302	0V	5V/0V	–	Q636	14.2V	14.1V	0V
PT303	0V	5V/0V	–	Q637	13.8V	PS	PS
PT304	0V	5V/0V	–	Q638	14V	13.1V	0V
Q401	0V	0V	0.2V	Q639	0V	0V	5V
Q402	0V	0V	0.2V	Q641	7.6V	7.4V	6.8V
Q404	0V	8.7V	0V	Q642	0V	0.2V	2.2V
Q406	0V	0V	3.5V	Q645	12.2V	13.3V	12.9V
Q407	0V	SIG	0V	Q646	14V	14V	13.5V
Q408	0V	SIG	0V	Q403	0V	0V	1V
Q601	0V/0V	4.8V/0V	0V/8.1V	Q405	0V	0V	1V
Q605	0V	0V	3.8V	Q603	0V	14V	4.9V
Q104	0V	0V	0.8V	Q604	0V	14V	1V
Q117	4.1V	4.1V	4.9V	Q628	14V	0.3V	14V
Q118	4.1V	4.1V	4.9V	Q620	14V	0V	14V

(Measuring Conditions)

1. Power Supply: 14V DC
2. Measuring Tool: Digital Multi Voltmeter.
3. Measuring Standard: Ground=0V
4. Unit Condition: Be playing back the 2nd. Music of the test CD(YEDS-18).

BLU	Blue	YEL	Yellow
GRN	Green	PNK	Pink
BLK	Black	VIO	Violet
GRY	Gray	GRN/WHT	Green/White
WHT	White	GRY/WHT	Gray/White
RED	Red	GRY/YEL	Gray/Yellow
BRN	Brown	GRN/YEL	Green/Yellow
ORG	Orange	SHLD	Shield

D | E | F | G | H | I | J | K

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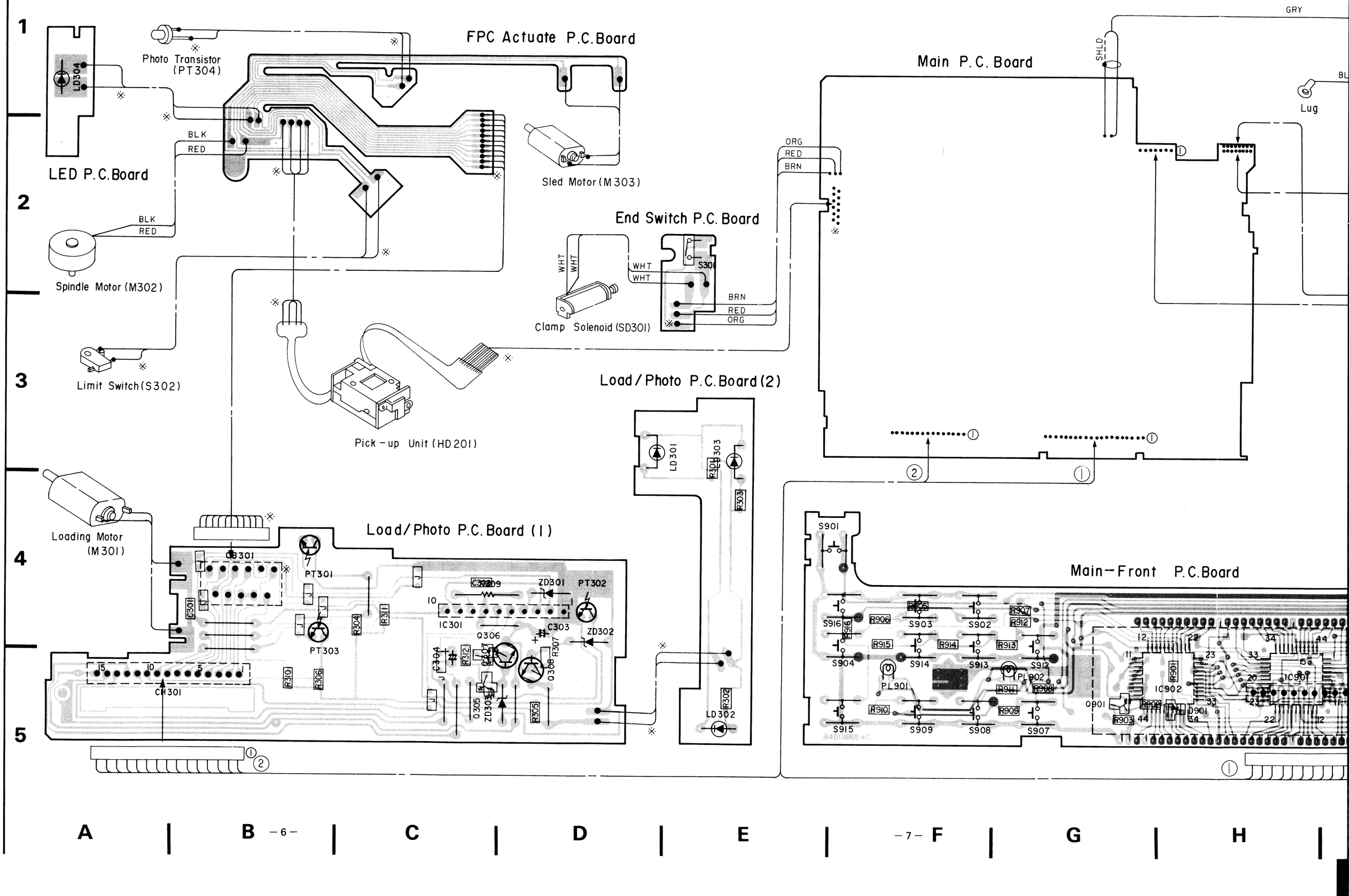
Parts Layout on P.C. Boards and Wiring Diagram (2/2)



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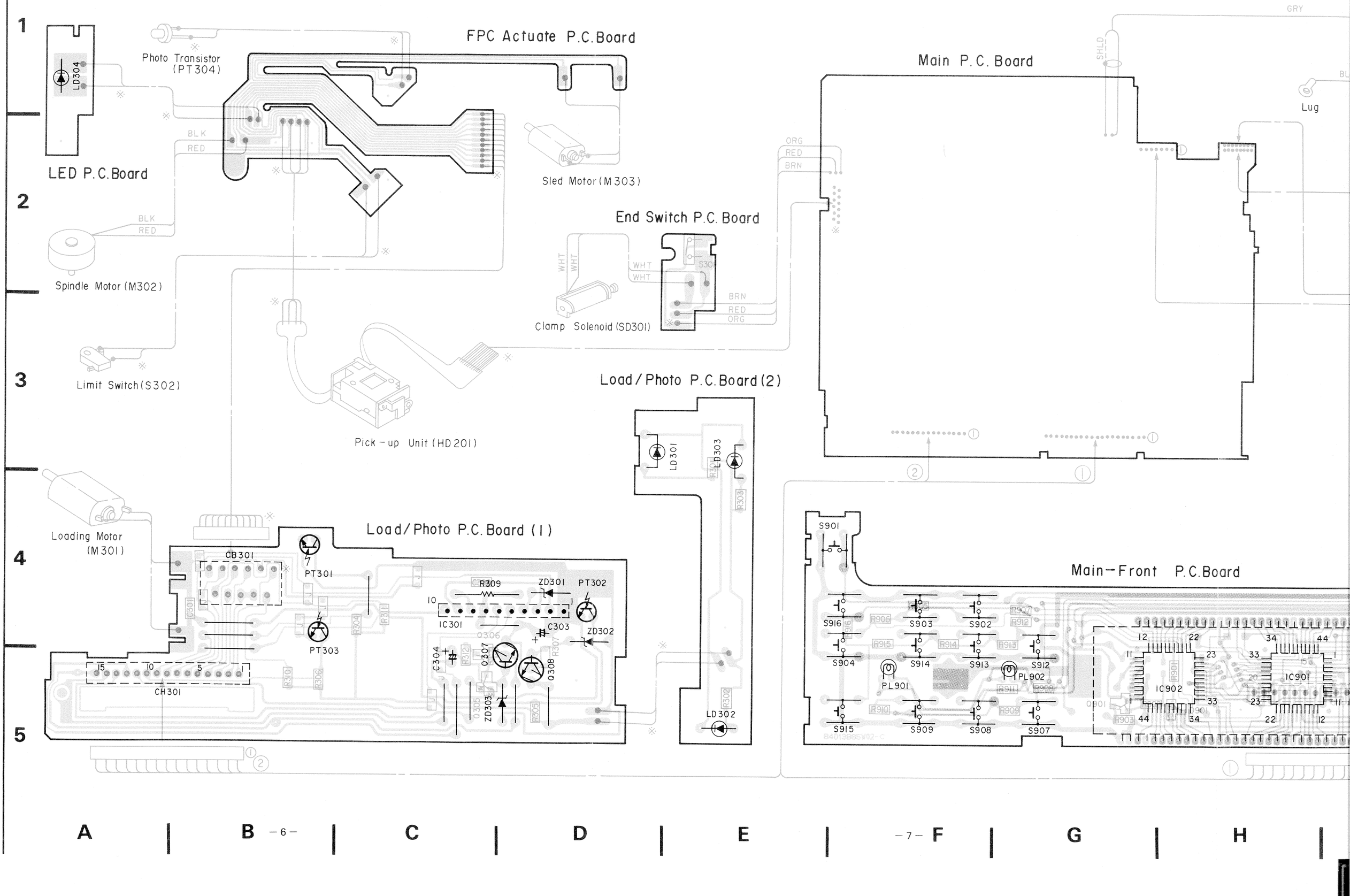
Parts Layout on P.C. Boards and Wiring Diagram (2/2)



ram (2/2)

tuate P.C.Board

Sled Motor (M303)

End Switch P.C.Board

Clamp Solenoid (SD301)

Load / Photo P.C.Board (2)

(1)

Main P.C.Board

Main-Front P.C.Board

QRB P.C.Board

Lug

BLU ..... Blue
GRN ..... Green
BLK ..... Black
GRY ..... Gray
WHT ..... White
RED ..... Red
BRN ..... Brown
ORG ..... Orange
YEL ..... Yellow
PNK ..... Pink
VIO ..... Violet
GRN/WHT ..... Green/White
GRY/WHT ..... Gray/White
GRY/YEL ..... Gray/Yellow
GRN/YEL ..... Green/Yellow
SHLD ..... Shield

	E	C	B
Q305	0V	0V/13.9V	3.6V/0V
Q306	14V/0.7V	10.7V/0V	0V/13.9V
Q307	10.1V	14V	10.7V
Q308	5.1V/0V	10.1V/0V	5.8V/0V
Q901	0.7V	2V	1.4V
Q903	6.1V	7.4V	6.7V

IC301

1	0V
2	0V/6V
3	8V/0V
4	6V/0V
5	2V/0V
6	2V/0V
7	10V/0V
8	10V/0V
9	8V/0V
10	0V/6V

IC405

1	4.4V
2	4.4V
3	4.4V
4	0V
5	4.4V
6	4.4V
7	4.4V
8	8.9V

IC901

1		16	31	PS
2		17	32	
3		18	33	
4		19	34	
5		20	35	
6		21	36	
7		22	37	
8		23	38	
9		24	39	
10		25 PS	40	
11		26 0V	41	
12		27 5.2V	42	
13		28	43	
14		29 12.2V	44	
15		30 PS		

IC902

1		16	31	PS
2		17	32	
3		18	33	
4		19	34	
5		20	35	
6		21	36	
7		22	37	
8		23	38	
9		24	39	
10		25 PS	40	
11		26 0V	41	
12		27 5.2V	42	
13		28	43	
14		29 12.2V	44	
15		30		

D | E | -7- F | G | H | I | -8- J | K

ram (2/2)

tuate P.C.Board

Sled Motor (M303)

End Switch P.C.Board

Clamp Solenoid (SD301)

Load / Photo P.C.Board (2)

Main P.C.Board

QRB P.C.Board

Main－Front P.C.Board

BLU ····· Blue
GRN ····· Green
BLK ····· Black
GRY ····· Gray
WHT ····· White
RED ····· Red
BRN ····· Brown
ORG ····· Orange
YEL ····· Yellow
PNK ····· Pink
VIO ····· Violet
GRN／WHT ····· Green／White
GRY／WHT ····· Gray／White
GRY／YEL ····· Gray／Yellow
GRN／YEL ····· Green／Yellow
SHLD ····· Shield

	E	C	B
Q305	0V	0V/13.9V	3.6V/0V
Q306	14V/0.7V	10.7V/0V	0V/13.9V
Q307	10.1V	14V	10.7V
Q308	5.1V/0V	10.1V/0V	5.8V/0V
Q901	0.7V	2V	1.4V
Q903	6.1V	7.4V	6.7V

IC301

1	0V
2	0V/6V
3	8V/0V
4	6V/0V
5	2V/0V
6	2V/0V
7	10V/0V
8	10V/0V
9	8V/0V
10	0V/6V

IC405

1	4.4V
2	4.4V
3	4.4V
4	0V
5	4.4V
6	4.4V
7	4.4V
8	8.9V

IC901

1		16	31	PS
2		17	32	
3		18	33	
4		19	34	
5		20	35	
6		21	36	
7		22	37	
8		23	38	
9		24	39	
10		25	40	
11		26	41	
12		27	42	
13		28	43	
14		29	44	
15		30		

IC902

1		16	31	PS
2		17	32	
3		18	33	
4		19	34	
5		20	35	
6		21	36	
7		22	37	
8		23	38	
9		24	39	
10		25	40	
11		26	41	
12		27	42	
13		28	43	
14		29	44	
15		30		

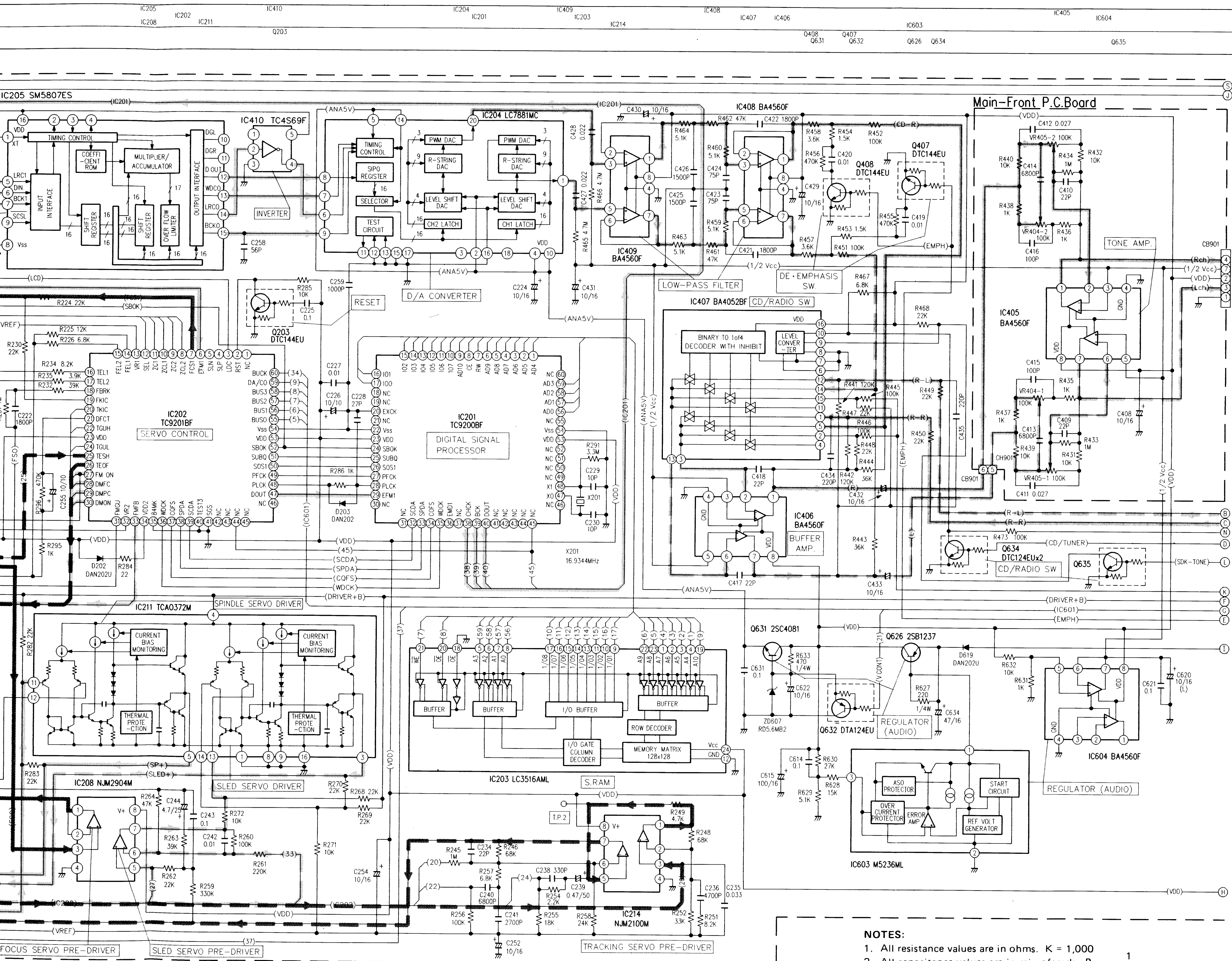
Schematic Diagram (1/3)

IC	IC206 IC207 IC209 IC210 IC213 IC205 IC202 IC208 IC211 IC410 IC204 IC201 IC409 IC203 IC214 IC408 IC407 IC406 IC603
Transistor (Q)	Q201 Q207 Q209 Q208 Q202 Q210 Q211 Q203 Q408 Q631 Q407 Q632 Q626 Q634

Main P.C.Board [LASER APC CIRCUIT]

HD201 PICK-UP BLOCK SF87.5AP
LASER DIODE
VR 2KB
Q201 2SB1237
IC206 BA10358F
Q202 DTA124EU
THERMO DET.
IC213 TC4S69F
4fs DIGITAL FILTER
IC205 SM5807ES
TIMING CONTROL
COEFFI-CIENT ROM
MULTIPLIER/ ACCUMULATOR
INPUT INTERFACE
SHIFT REGISTER
OVER FLOW LIMITER
OUTPUT INTERFACE
IC410 TC4S69F
INVERTER
IC204 LC7881MC
TIMING CONTROL
SIPO REGISTER
SELECTOR
TEST CIRCUIT
PWM DAC
R-STRING DAC
LEVEL SHIFT DAC
CH2 LATCH
CH1 LATCH
D/A CONVERTER
IC409 BA4560F
IC408 BA4560F
LOW-PASS FILTER
DE-EMPHASIS SW.
Q407 DTC144EU
Q408 DTC144EU
IC407 BA4052BF [CD/RADIO SW]
BINARY TO 1of4 DECODER WITH INHIBIT
LEVEL CONVER-TER
IC406 BA4560F
BUFFER AMP.
TRACKING ERROR BALANCE ADJUST VOL
SLED MOTOR OFF SW
Q211 DTA124EU
Q203 DTC144EU
RESET
PEAK BOTTOM DET
IC202 TC9201BF
SERVO CONTROL
IC201 TC9200BF
DIGITAL SIGNAL PROCESSOR
X201 16.9344MHz
IC207 TA8101F
RF AMP.
FOCUS SERVO DRIVER
TRACKING SERVO DRIVER
IC210 TCA0372M
IC211 TCA0372M
SPINDLE SERVO DRIVER
SPINDLE SERVO PRE-DRIVER
IC208 NJM2904M
IC209 NJM2904M
Q207 2SD1664
Q208 2SC4081
Q209 2SB1132
SPINDLE MOTOR TORQUE SW
Q210 DTC124EU
SLED SERVO DRIVER
FOCUS SERVO PRE-DRIVER
SLED SERVO PRE-DRIVER
TRACKING SERVO PRE-DRIVER
IC203 LC3516AML
S.RAM
BUFFER
I/O BUFFER
I/O GATE COLUMN DECODER
MEMORY MATRIX 128x128
ROW DECODER
IC214 NJM2100M
Q631 2SC4081
Q626 2SB1237
Q632 DTA124EU
REGULATOR (AUDIO)
IC603 M5236ML
ASO PROTECTOR
OVER CURRENT PROTECTOR
ERROR AMP
REF GENER
M303 SLED MOTOR
M302 SPINDLE MOTOR
1/2Vcc(ACTUATOR/SPINDLE MOTOR/SLED MOTOR)

NOTES:
1. All resistance values a
2. All capacitance value



IC201

1	PS	11	PS	21	0V	31	0V	41	PS	51	5V
2	PS	12	PS	22	0V	32	PS	42	PS	52	5V
3	PS	13	PS	23	5V	33	PS	43	PS	53	5V
4	PS	14	PS	24	5V	34	PS	44	PS	54	0V
5	PS	15	PS	25	PS	35	PS	45	PS	55	5V
6	PS	16	PS	26	PS	36	5V	46	0V	56	PS
7	PS	17	PS	27	PS	37	0V	47	PS	57	PS
8	PS	18	5V	28	PS	38	PS	48	PS	58	PS
9	PS	19	5V	29	PS	39	PS	49	5V	59	PS
10	PS	20	0V	30	0V	40	PS	50	5V	60	PS

IC203

1	PS	13	PS
2	PS	14	PS
3	PS	15	PS
4	PS	16	PS
5	PS	17	PS
6	PS	18	0V
7	PS	19	PS
8	PS	20	PS
9	PS	21	PS
10	PS	22	PS
11	PS	23	PS
12	0V	24	5V

IC202

1	PS	11	PS	21	PS	31	0V/PS	41	0V	51	PS
2	5V/0V	12	2.2V	22	2.2V	32	0V/4.9V	42	PS	52	PS
3	5V/0V	13	2.2V	23	5V	33	0V/4.2V	43	PS	53	PS
4	PS	14	2.2V	24	2.2V	34	PS	44	PS	54	4.9V/0V
5	PS	15	2.2V	25	2.2V	35	4.9V	45	5V	55	4.5V/0V
6	PS	16	2.2V	26	2.2V	36	4.9V/0V	46	5V	56	4.3V/0V
7	2.2V	17	2.2V	27	2V	37	0V/4.9V	47	PS	57	4.3V/0V
8	1V	18	2.2V	28	PS	38	4.9V/0V	48	PS	58	4.9V
9	PS	19	2.6V	29	PS	39	4.8V/0V	49	PS	59	4.9V
10	1V	20	2V	30	2.2V	40	4.8V/0V	50	PS	60	0V

IC204

1	2.3V	11	1.2V
2	2.3V	12	0V
3	2.3V	13	0V
4	2.3V	14	2.3V
5	2.3V	15	0V
6	0V	16	0V
7	0V	17	0V
8	0V	18	0V
9	0.4V	19	0V
10	2.3V	20	1.5V

IC205

1	PS	9	5V
2	PS	10	PS
3	5V	11	PS
4	PS	12	PS
5	PS	13	PS
6	0V	14	PS
7	PS	15	PS
8	0V	16	5V

IC206

1	0.6V
2	5V
3	2.6V
4	0V
5	0.2V/0V
6	0.2V
7	2.8V
8	5V

IC207

1	2V	11	2.2V	21	2.2V
2	2V	12	2.2V	22	2.2V
3	2.2V	13	2.2V	23	2.2V
4	2V	14	0V	24	2.2V
5	2V	15	PS	25	2.2V
6	2V	16	1V	26	2.8V
7	2V	17	PS	27	2.2V
8	5V	18	1V	28	2.2V
9	2V	19	PS	29	2.2V
10	2V	20	2.5V	30	2.2V

IC208

1	2.2V
2	2.2V
3	2.2V
4	0V
5	2.2V
6	2.2V
7	2.2V
8	5V

IC209

1	2.5V
2	2.5V
3	2.5V
4	0V
5	4.1V
6	4.1V
7	3.5V
8	8V

IC210

1	0V	9	0V
2	0V	10	0V
3	4.5V	11	4V
4	8V	12	4V
5	4V	13	4V
6	0V	14	4V
7	0V	15	0V
8	0V	16	0V

IC211

1	0V	9	0V
2	0V	10	0V
3	2.5V	11	4V
4	8V	12	4V
5	4V	13	4V
6	0V	14	4V
7	0V	15	0V
8	0V	16	0V

IC213

1	0V
2	PS
3	0V
4	PS
5	5V

IC214

1	2.2V
2	2.2V
3	2.2V
4	0V
5	2.2V
6	2.2V
7	2.2V
8	5V

IC405

1	4.4V
2	4.4V
3	4.4V
4	0V
5	4.4V
6	4.4V
7	4.4V
8	8.9V

IC406

1	4.4V
2	4.4V
3	4.4V
4	0V
5	4.4V
6	4.4V
7	4.4V
8	8.7V

IC407

1	4.4V	9	0V
2	4.4V	10	0V
3	4.4V	11	0V
4	0V	12	4.4V
5	3.5V	13	4.4V
6	0V	14	4.4V
7	0V	15	1.1V
8	0V	16	8.9V

IC408

1	4.7V
2	4.7V
3	4.6V
4	0V
5	1.3V
6	4.7V
7	4.7V
8	8.9V

IC409

1	4.7V
2	4.7V
3	3.1V
4	0V
5	3.1V
6	4.7V
7	4.7V
8	8.7V

IC410

1	0V
2	PS
3	0V
4	PS
5	5V

IC603

1	13.5V
2	0V
3	1.3V

IC604

1	8.2V
2	0.4V
3	2.4V
4	0V
5	4.3V
6	4.4V
7	4.4V
8	8.7V

	E	C	B
Q201	3.6V	1.9V	3V
Q202	5.2V	0.3V	5.1V
Q203	0V	2.2V	0V
Q210	2.2V/2.2V	2.3V/2.3V	4.8V/0V
Q407	0V	SIG	0V
Q408	0V	SIG	0V
Q626	14.1V	8.7V	13.5V
Q631	2.4V	8.7V	3V
Q632	3V	0V	0V
Q634	0V	8.7V	0V
Q211	2.3V	2.3V	5V
Q635			

	E	C	B
Q207	4.1V	8.3V	4.7V
Q208	3.5V	4.7V	4.1V
Q209	0V	4.1V	3.5V

CD signal line (Digital)
L-ch signal line
R-ch signal line
Focus servo signal line
Tracking servo signal line
Spindle servo signal line
Sled servo signal line

[Measuring Conditions]

1. Power Supply: 14V DC
2. Measuring Tool: Digital Multi Voltmeter.
3. Measuring Standard: Ground=0V
4. Unit Condition: Be playing back the 2nd. Music of the test CD(YEDS-18).

NOTES:

1. All resistance values are in ohms. K = 1,000
2. All capacitance values are in microfarads. $P = \frac{1}{1,000,000}$

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Schematic Diagram (2/3)

IC	IC404	IC401 IC605	IC301	IC403	IC402	IC607	IC602	IC601	IC606 IC901
Transistor (Q)(PT)	Q405 Q204 Q205 PT304 Q206 Q403 Q622 PT301 PT302 PT303	Q406 Q404 Q637	Q636 Q621	Q625 Q623 Q308	Q627 Q630 Q629 Q307 Q306 Q305	Q628 Q619 Q618 Q402 Q638 Q639 Q401 Q903 Q641 Q901 Q642 Q646	Q633	Q609	Q607 Q617 Q616 Q608 Q601

Main P.C.Board

Q.R.B. P.C. Board

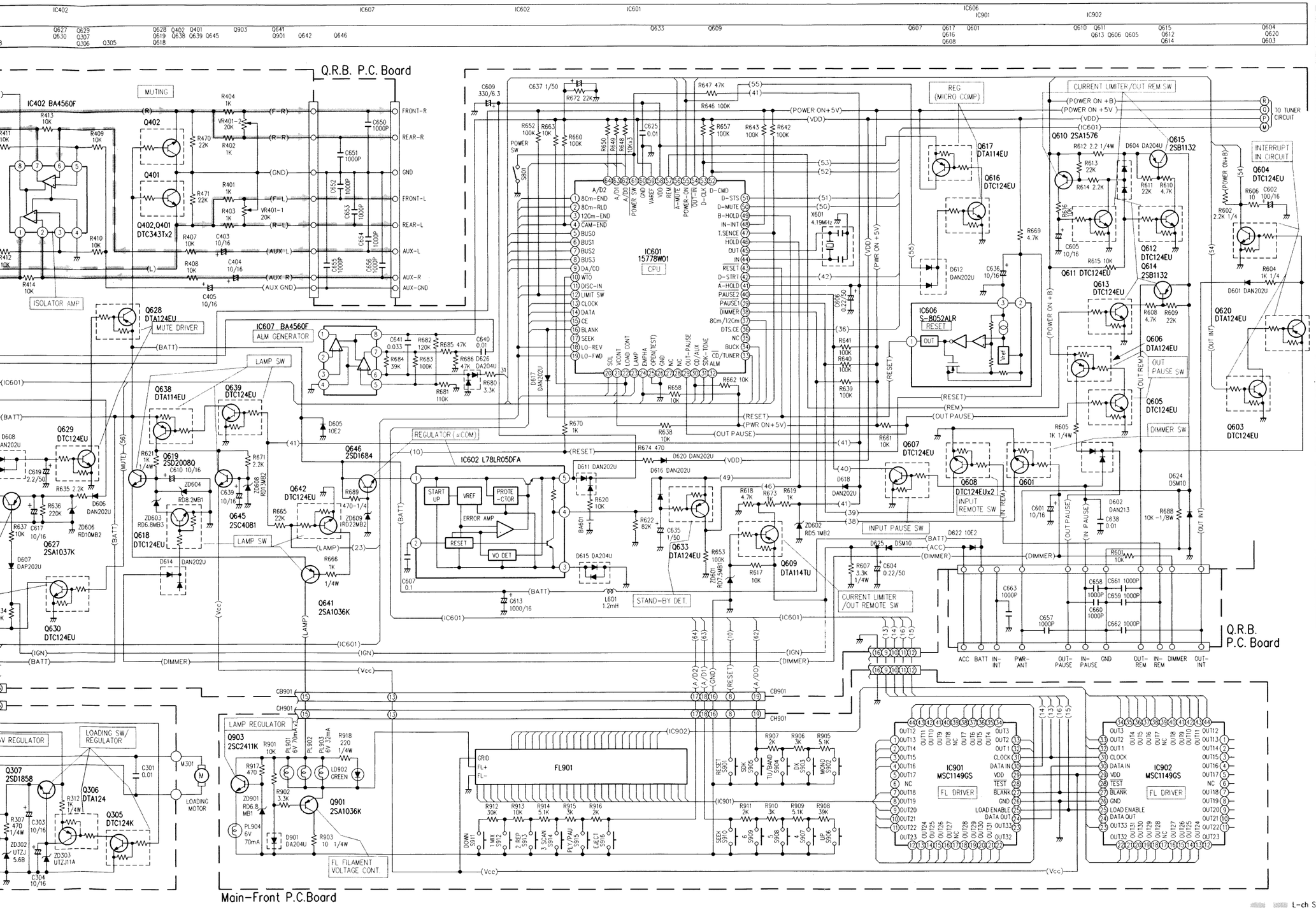
Load/Photo P.C.Board

Main-Front P.C.Board

NOTES:

1. All resistance values are in ohms. K = 1,000

2. All ca



	E	C	B		E	C	B
Q636	14.2V	14.1V	0V	Q629	0V	14V	0V
Q637	13.8V	PS	PS	Q630	0V	0V	4.3V
Q638	14V	13.1V	0V	Q633	5.7V	4.5V	5.7V
Q639	0V	0V	5V	PT301	0V	5V/0V	–
Q628	14V	0.3V	14V	PT302	0V	5V/0V	–
Q641	7.6V	7.4V	6.8V	PT303	0V	5V/0V	–
Q642	0V	0.2V	2.2V	PT304	0V	5V/0V	–
Q645	12.2V	13.3V	12.9V	Q305	0V	0V/13.9V	3.6V/0V
Q601	0V/0V	4.8V/0V	0V/8.1V	Q307	10.1V	14V	10.7V
Q605	0V	0V	3.8V	Q308	5.1V/0V	10.1V/0V	5.8V/0V
Q606	14V	14V	0V	Q401	0V	0V	0.2V
Q607	0V/0V	4.7V/0V	0V/14.4V	Q402	0V	0V	0.2V
Q608	0V/0V	4.7V/0V	0V/14.4V	Q404	0V	8.7V	0V
Q609	14.2V	14.2V	7.3V	Q901	0.7V	2V	1.4V
Q610	14V	14V	13.3V	Q903	6.1V	7.4V	6.7V
Q611	0V	0V	10V	Q204	14V	0V	3.4V
Q612	0V	0V	9.7V	Q205	0V	14V	0V
Q613	0V	0.1V	4.3V	Q206	0V	0V	0V
Q614	14V	14V	13.3V	Q406	0V	0V	3.5V
Q615	14V	14V	13.4V	Q306	14V/0.7V	10.7V/0V	0V/13.9V
Q616	0V	0V	4.5V	Q647	0V	0V/14.4V	0V/5V
Q617	5.1V	4.9V	0V	Q403	0V	0V	1V
Q618	0V	4V	0V	Q405	0V	0V	1V
Q619	7.6V	14V	8.2V	Q603	0V	14V	4.9V
Q621	0V	0V	3.9V	Q604	0V	14V	0V
Q922	5.1V	8.3V	5.7V	Q620	14V	0V	14V
Q623	0V	0.4V	3.3V	Q646	14V	14V	13.5V
Q625	14.1V	14.1V	13.4V				
Q627	10V	0.3V	10V				

IC602

1	14V
2	7.8V
3	0.6V
4	5.7V
5	5.7V

IC401

1	4.4V	6	8.7V	11	4.4V
2	4.4V	7	0V	12	0V
3	4.4V	8	4.4V	13	0V
4	4.4V	9	4.4V	14	8.7V
5	8.7V	10	4.4V		

IC301

1	0V
2	0V/6V
3	8V/0V
4	6V/0V
5	2V/0V
6	2V/0V
7	10V/0V
8	10V/0V
9	8V/0V
10	0V/6V

IC901

1		16		31	PS
2		17		32	
3		18		33	
4		19		34	
5		20		35	
6		21		36	
7		22		37	
8		23		38	
9		24		39	
10		25	PS	40	
11		26	0V	41	
12		27	5.2V	42	
13		28		43	
14		29	12.2V	44	
15		30	PS		

IC607

1	4V
2	1V
3	4V
4	0V
5	3V
6	1V
7	4V
8	4.6V

IC402

1	4.4V
2	4.4V
3	4.4V
4	0V
5	4.4V
6	4.4V
7	4.4V
8	8.7V

IC902

1		16		31	PS
2		17		32	
3		18		33	
4		19		34	
5		20		35	
6		21		36	
7		22		37	
8		23		38	
9		24		39	
10		25	PS	40	
11		26	0V	41	
12		27	5.2V	42	
13		28		43	
14		29	12.2V	44	
15		30			

IC403

1	4.4V
2	4.4V
3	4.4V
4	0V
5	4.4V
6	4.4V
7	4.4V
8	8.9V

IC606

1	5V/0V
2	5V
3	0V

IC404

1	4.4V
2	4.4V
3	4.4V
4	0V
5	4.4V
6	4.4V
7	4.4V
8	8.7V

IC605

1	PS
2	0V
3	PS
4	0V
5	1.3V
6	13.9V
7	13.9V
8	PS

IC601

1	0V/5V	23	2.2V/0V	45	PS
2	0V/5V	24	3.6V/0V	46	4.6V/0V
3	0V/5V	25	0V	47	0V/5V
4	0V/5V	26	0V	48	4.6V/0V
5	PS	27	0V	49	5V/0V
6	PS	28	0V	50	4.9V/0V
7	PS	29	3.6V/0V	51	PS
8	PS	30	3.6V/0V	52	PS
9	PS	31	0V/PS	53	PS
10	4.8V	32	0V/4.9V	54	4.9V/0V
11	0V/5V	33	0V/4.2V	55	4.5V/0V
12	4.8V/0V	34	PS	56	4.3V/0V
13	PS	35	4.9V	57	4.3V/0V
14	PS	36	4.9V/0V	58	4.9V
15	PS	37	0V/4.9V	59	4.9V
16	5V/0V	38	4.9V/0V	60	0V
17	0V/5V	39	4.8V/0V	61	0V/4.9V
18	0V/5V	40	4.8V/0V	62	–
19	0V/5V	41	5V/0V	63	–
20	0V/5V	42	0V/PS	64	–
21	3.9V/0V	43	5V/0V		
22	0V/5V	44	PS		

62,63,64
1/6 VDD,2/6 VDD,3/6 VDD,4/6 VDD,5/6 VDD ,VDD

<Measuring Conditions>
1. Power Supply: 14V DC
2. Measuring Tool: Digital Multi Voltmeter.
3. Measuring Standard: Ground=0V
4. Unit Condition: Be Playing back the 2nd Music of the test CD(YEDS-18).

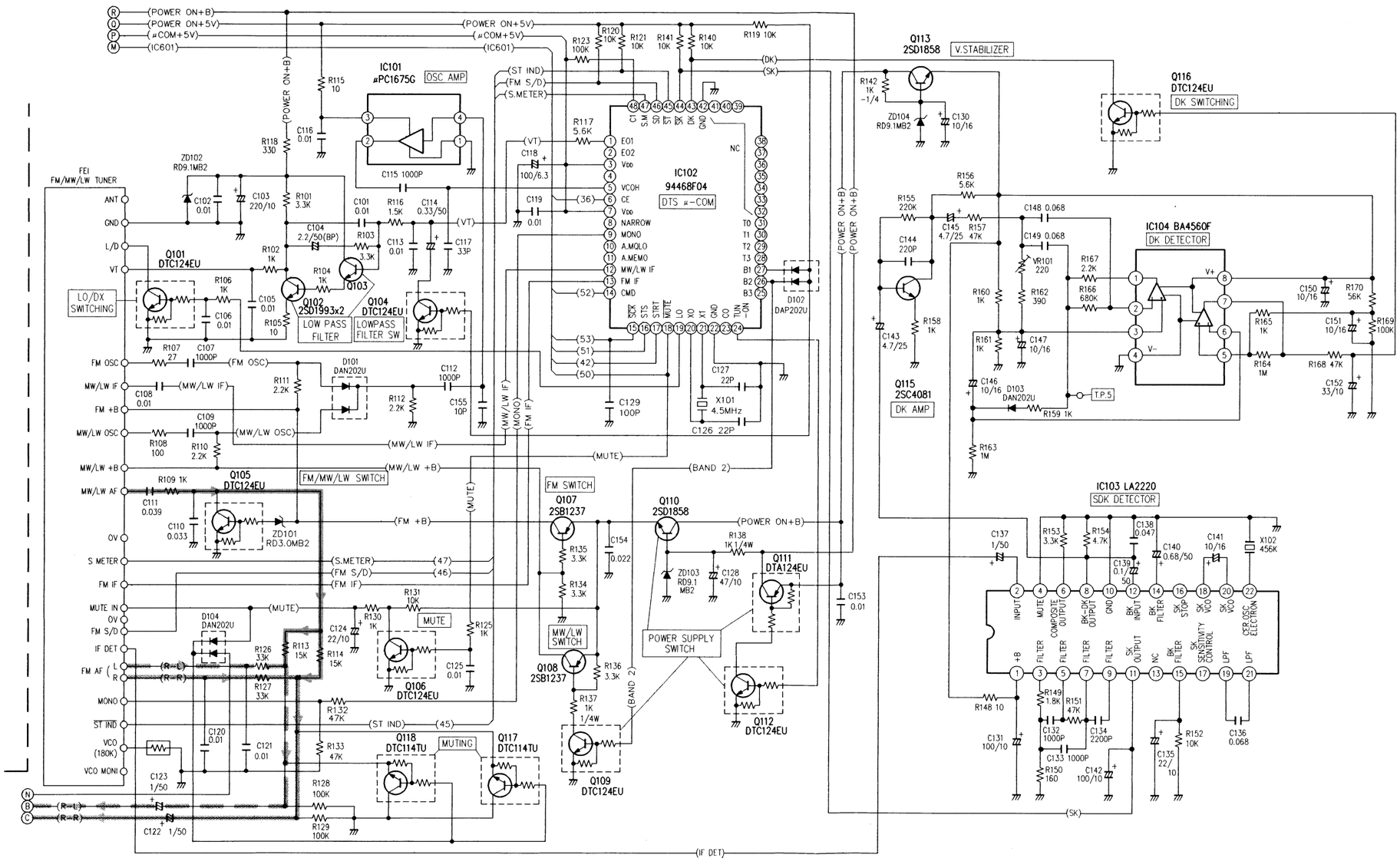
NOTES:

1. All resistance values are in ohms. K = 1,000
2. All capacitance values are in microfarads. P = $\frac{1}{1{,}000{,}000}$

Schematic Diagram (3/3)

IC	IC101	IC102	IC103	IC104
Transistor (Q)	Q101 Q105 Q102 Q103 Q106 Q118 Q104 Q117	Q107 Q108 Q109 Q110 Q111 Q112 Q113 Q115	Q116	

Main P.C.Board



	E	C	B
Q101	0V	6.6V/0V	4.7V/0V
Q102	0.1V	1.1V~7.4V	0.7V
Q103	0.7V	9.4V	1.1V
Q104	0V	0V	0.8V
Q105	0V	0V	6.7V/0V
Q106	0V	0V/7.7V	0V/4.7V
Q107	8.8V	8.7V/0V	8.8V/8.1V
Q108	8.8V	8.8V/1.4V	8.6V/8.1V
Q109	0V	8.6V/0V	4.4V/1V
Q110	8.8V	14V	9.4V
Q111	0V/13V	13.9V/0V	0V/14V
Q112	0V	0V/13V	5.1V/0V
Q113	8.6V	13.7V	9.2V
Q115	1V	2.9V	1.6V
Q116	0V	3.3V	0.6V
Q117	4.1V	4.1V	4.9V
Q118	4.1V	4.1V	4.9V

IC101

1	0V
2	3.7V
3	1.5V
4	1V

IC102

1	1.2V	25	0V
2	0V	26	4.5V/1V
3	5V	27	1V/5V
4	0V	28	0V
5	2V	29	0V
6	5V/0V	30	0V
7	5V/0V	31	0V
8	5V/0V	32	0V
9	0V	33	0V
10	0V	34	5V/0V
11	0V	35	PS
12	0V/PS	36	PS
13	0V	37	PS
14	0V/PS	38	0V/PS
15	PS	39	0V
16	PS	40	0V
17	PS	41	0V
18	5V/0V	42	0V
19	0V/5V	43	
20	PS	44	
21	PS	45	4V/0V
22	0V	46	4V/0V
23	0V	47	0V
24	5V	48	5V

IC103

1	8.3V
2	2.1V
3	2.1V
4	0V
5	2.1V
6	1.4V
7	2.1V
8	2.6V
9	3V
10	0V
11	0.6V
12	2.9V
13	2.9V
14	2.9V
15	2.4V
16	0V
17	0V
18	3.1V
19	3V
20	3V
21	3V
22	4.1V

IC104

1	4.2V	5	5.2V
2	4.2V	6	5.2V
3	4.2V	7	1.3V
4	0V	8	8.6V

(Measuring Conditions)

1. Power Supply: 14V DC
2. Measuring Tool : Digital Multi Voltmeter.
3. Measuring Standard : Ground=0V
4. Unit Condition : Be playing back the 2nd. Music of the test CD(YEDS-18).

MW/LW Signal Line
L-ch Signal Line
R-ch Signal Line

NOTES:

1. All resistance values are in ohms, K = 1,000
2. All capacitance values are in microfarads. $P = \frac{1}{1.000.000}$

Electrical Parts List

Resistor : Carbon resistors under 1/4 watts are not mentioned in the parts list, please confirm them by schematic diagram.
uF = microfarads, pF = picofarads

Abbreviations

RES. = Resistor	CAP. = Capacitor
C.F. = Carbon Film	ELY. = Electrolytic
M.F. = Metal Film	CER. = Ceramic
M.O. = Metal Oxide Film	MYL. = Mylar
M.P. = Metal Plate	TAN. = Tantalum
TR. = Transistor	POLY. = Polystyrol
TRANS. = Transformer	PP. = Polypropylene
CP. = Chip	PLT. = Polyethylene

Symbol No.	Part No.	Description		
Main P. C. Board				
IC's				
IC101	51T96030F01	μ PC1675G		
IC102	51T94468F04	94468F04		
IC103	51T69141F01	LA2220		
IC104	51T92001F01	BA4560F		
or	51T93338F01	NJM4560E		
IC201	51T15260W01	TC9200BF		
IC202	51T15261W01	TC9201BF		
IC203	51T84723F02	LC3516AML		
or	51T15420W01	TC5517FL		
or	51T90640F01	CXK5816M		
IC204	51T15266W01	LC7881MC		
IC205	51T15265W03	SM5807ES		
IC206	51T92693F01	BA10358F		
IC207	51T15262W01	TA8101F		
IC208	51T93333F01	NJM2904M		
IC209	51T93333F01	NJM2904M		
IC210	51T15264W01	TCA0372M		
IC211	51T15264W01	TCA0372M		
IC213	51T93532F01	TC4S69F		
IC214	51T16025W01	NJM2100M		
IC401	51T68999F03	BU4066BF		
IC402	51T92001F01	BA4560F		
or	51T93338F01	NJM4560E		
IC403	51T92001F01	BA4560F		
or	51T93338F01	NJM4560E		
IC404	51T92001F01	BA4560F		
or	51T93338F01	NJM4560E		
IC406	51T92001F01	BA4560F		
or	51T93338F01	NJM4560E		
IC407	51T15270W01	BU4052BF		
IC408	51T92001F01	BA4560F		
or	51T93338F01	NJM4560E		
IC409	51T92001F01	BA4560F		
or	51T93338F01	NJM4560E		
IC410	51T93532F01	TC4S69F		

Symbol No.	Part No.	Description		
IC601	51T15778W01	15778W01		
or	51T15263W01	15263W01		
IC602	51T15268W03	L78LR05FA		
IC603	51T90890F01	M5236ML		
IC604	51T92001F01	BA4560F		
or	51T93338F01	NJM4560E		
IC605	51T15510W01	MC34063M		
IC606	51T92166F01	S-8052ALR		
IC607	51T92001F01	BA4560F		
or	51T93338F01	NJM4560E		
Transistors				
Q101	48T94606F03	CP., DTC124EU		
Q102	48T90181F05	2SD1993		
Q103	48T90181F05	2SD1993		
Q104	48T94606F03	CP., DTC124EU		
Q105	48T94606F03	CP., DTC124EU		
Q106	48T94606F03	CP., DTC124EU		
Q107	48T83417F03	2SB1237		
Q108	48T83417F03	2SB1237		
Q109	48T94606F03	CP., DTC124EU		
Q110	48T83415F03	2SD1858		
Q111	48T94606F53	CP., DTA124EU		
Q112	48T94606F03	CP., DTC124EU		
Q113	48T83415F03	2SD1858		
Q115	48T94582F01	CP., 2SC4081		
Q116	48T94606F03	CP., DTC124EU		
Q117	48T94606F05	CP., DTC114TU		
Q118	48T94606F05	CP., DTC114TU		
Q201	48T83417F03	2SB1237		
Q202	48T94606F53	CP., DTA124EU		
Q203	48T94606F01	CP., DTC144EU		
Q204	48T15287W03	2SB1326Q		
Q205	48T94606F03	CP., DTC124EU		
Q206	48T81552F01	CP., 2SD1383K		
Q207	48T80614F01	CP., 2SD1664		
Q208	48T94582F01	CP., 2SC4081		
Q209	48T80611F01	CP., 2SB1132		
Q210	48T94606F03	CP., DTC124EU		
Q211	48T94606F53	CP., DTA124EU		
Q401	48T62967F33	CP., DTC343T		
Q402	48T62967F33	CP., DTC343T		
Q403	48T63788F01	CP., 2SD1328		
Q404	48T94606F03	CP., DTC124EU		
Q405	48T63788F01	CP., 2SD1328		
Q406	48T94606F03	CP., DTC124EU		
Q407	48T94606F01	CP., DTC144EU		

Symbol No.	Part No.	Description		
Q408	48T94606F01	CP., DTC144EU		
Q601	48T94606F03	CP., DTC124EU		
Q603	48T94606F03	CP., DTC124EU		
Q604	48T94606F03	CP., DTC124EU		
Q605	48T94606F03	CP., DTC124EU		
Q606	48T94606F53	CP., DTA124EU		
Q607	48T94606F03	CP., DTC124EU		
Q608	48T94606F03	CP., DTC124EU		
Q609	48T94606F55	CP., DTA114TU		
Q610	48T94581F01	CP., 2SA1576		
Q611	48T94606F03	CP., DTC124EU		
Q612	48T94606F03	CP., DTC124EU		
Q613	48T94606F03	CP., DTC124EU		
Q614	48T80611F01	CP., 2SB1132		
Q615	48T80611F01	CP., 2SB1132		
Q616	48T94606F03	CP., DTC124EU		
Q617	48T94606F56	CP., DTA114EU		
Q618	48T94606F03	CP., DTC124EU		
Q619	48T15289W03	2SD2008Q		
Q620	48T94606F53	CP., DTA124EU		
Q621	48T94606F03	CP., DTC124EU		
Q622	48T15289W03	2SD2008Q		
Q623	48T94606F03	CP., DTC124EU		
Q625	48T15701W02	2SB1360E		
Q626	48T83417F03	2SB1237		
Q627	48T63420F01	CP., 2SA1037K		
Q628	48T94606F53	CP., DTA124EU		
Q629	48T94606F03	CP., DTC124EU		
Q630	48T94606F03	CP., DTC124EU		
Q631	48T94582F01	CP., 2SC4081		
Q632	48T94606F53	CP., DTA124EU		
Q633	48T94606F53	CP., DTA124EU		
Q634	48T94606F03	CP., DTC124EU		
Q635	48T94606F03	CP., DTC124EU		
Q636	48T94606F53	CP., DTA124EU		
Q637	48T15511W02	CP., 2SB1261		
Q638	48T94606F56	CP., DTA114EU		
Q639	48T94606F03	CP., DTC124EU		
Q641	48T63419F01	CP., 2SA1036K		
Q642	48T94606F03	CP., DTC124EU		
Q645	48T94582F01	CP., 2SC4081		
Q646	48T80614F01	2SD1664		
Diodes				
D101	48T94608F03	CP., DAN202U		
D102	48T94608F02	CP., DAP202U		
D103	48T94608F03	CP., DAN202U		
D104	48T94608F03	CP., DAN202U		
D201	48T94608F03	CP., DAN202U		

Symbol No.	Part No.	Description		
D202	48T94608F03	CP., DAN202U		
D203	48T94608F03	CP., DAN202U		
D204	48T15512W01	CP., DSM10		
D205	48T94608F03	CP., DAN202U		
D206	48T94608F03	CP., DAN202U		
D601	48T94608F03	CP., DAN202U		
D602	48T15290W01	DAN213		
D604	48T94608F01	CP., DA204U		
D605	48C40235G02	10E2		
D606	48T94608F03	CP., DAN202U		
D607	48T94608F02	CP., DAP202U		
D608	48T94608F03	CP., DAN202U		
D611	48T94608F03	CP., DAN202U		
D612	48T94608F03	CP., DAN202U		
D613	48T15702W01	CP., SB05-05CP		
D614	48T94608F03	CP., DAN202U		
D615	48T94608F01	CP., DA204U		
D616	48T94608F03	CP., DAN202U		
D617	48T94608F03	CP., DAN202U		
D618	48T94608F03	CP., DAN202U		
D619	48T94608F03	CP., DAN202U		
D620	48T94608F03	CP., DAN202U		
D622	48C40235G02	10E2		
D624	48T15512W01	CP., DSM10		
D625	48T15512W01	CP., DSM10		
D626	48T94608F01	CP., DA204U		
ZD101	48T62934F05	Zener, CP., RD3.0MB2		
ZD102	48T62934F37	Zener, CP., RD9.1MB2		
ZD103	48T62934F37	Zener, CP., RD9.1MB2		
ZD104	48T62934F37	Zener, CP., RD9.1MB2		
ZD201	48T62934F01	Zener, CP., RD2.4MB1		
ZD601	48T62934F30	Zener, CP., RD7.5MB1		
ZD602	48T62934F19	Zener, CP., RD5.1MB2		
ZD603	48T62934F29	Zener, CP., RD6.8MB3		
ZD604	48T62934F33	Zener, CP., RD8.2MB1		
ZD605	48T62934F22	Zener, CP., RD5.6MB2		
ZD606	48T62934F40	Zener, CP., RD10MB2		
ZD607	48T62934F22	Zener, CP., RD5.6MB2		
ZD608	48T62934F49	Zener, CP., RD13MB2		
ZD609	48T62934F64	Zener, CP., RD22MB2		

Symbol No.	Part No.	Description		
Thermistor／Coils／Crystals／Filter				
TH201	48T93439F06	Thermistor, 100k ohm		
L601	25C40894G01	Coil, Choke, 1.2mH		
L602	24T71179F05	Coil, Inductor, 220 μ H		
L603	24T16271W13	Coil, 220 μ H		
X101	48T82502F02	Crystal 4.5MHz		
X201	48T84727F03	Crystal 16.9344MHz		
X601	91T15285W01	CER., LOCK 4.19MHz		
X102	91T69142F01	CER., LOCK, 456kHz		
Capacitors				
C101	08S65128F69	CP., 0.01 μ F		
C102	08S65128F69	CP., 0.01 μ F		
C103	23T16086W01	ELY., 220 μ F／10V		
C104	23T82372F19	ELY., (BP) 2.2 μ F／50V		
C105	08S65128F69	CP., 0.01 μ F		
C106	08S65128F69	CP., 0.01 μ F		
C107	08S65128F57	CP., 1000pF		
C108	08S65128F69	CP., 0.01 μ F		
C109	08S65128F57	CP., 1000pF		
C110	08T15399W02	CP., 0.033 μ F		
C111	08T90316F24	TF, 0.039 μ F		
C112	08S65128F57	CP., 1000pF		
C113	08S65128F69	CP., 0.01 μ F		
C114	23S61523F27	ELY., 0.33 μ F／50V		
C115	08S65128F57	CP., 1000pF		
C116	08S65128F69	CP., 0.01 μ F		
C117	08S65128F23	CP., 33pF		
C118	23S61523F08	ELY., 100 μ F／6.3V		
C119	08S65128F69	CP., 0.01 μ F		
C120	08S65128F69	CP., 0.01 μ F		
C121	08S65128F69	CP., 0.01 μ F		
C122	23S61523F29	ELY., 1 μ F／50V		
C123	23S61523F29	ELY., 1 μ F／50V		
C124	23S61523F09	ELY., 22 μ F／10V		
C125	08S65128F69	CP., 0.01 μ F		
C126	08S82122F21	CP., 22pF		
C127	08S82122F21	CP., 22pF		
C128	23S61523F11	ELY., 47 μ F／10V		
C129	08S65128F35	CP., 100pF		
C130	23S61523F12	ELY., 10 μ F／16V		
C131	23S61523F34	ELY., 100 μ F／10V		
C132	08S72783F35	CP., 1000pF		
C133	08S72783F35	CP., 1000pF		
C134	08T90316F09	TF, 2200pF		
C135	23S61523F09	ELY., 22 μ F／10V		

Symbol No.	Part No.	Description		
C136	08T90316F27	TF, 0.068 μ F		
C137	23S61523F29	ELY., 1 μ F／50V		
C138	08S65128F74	CP., 0.047 μ F		
C139	23S61523F25	ELY., 0.1 μ F／50V		
C140	23S61523F35	ELY., 0.68 μ F／50V		
C141	23S61523F12	ELY., 10 μ F／16V		
C142	23S61523F34	ELY., 100 μ F／10V		
C143	23S61523F17	ELY., 4.7 μ F／25V		
C144	08S65128F43	CP., 220pF		
C145	23S61523F17	ELY., 4.7 μ F／25V		
C146	23S61523F12	ELY., 10 μ F／16V		
C147	23S61523F12	ELY., 10 μ F／16V		
C148	08T90316F27	TF, 0.068 μ F		
C149	08T90316F27	TF, 0.068 μ F		
C150	23S61523F12	ELY., 10 μ F／16V		
C151	23S61523F12	ELY., 10 μ F／16V		
C152	23S61523F10	ELY., 33 μ F／10V		
C153	08S65128F69	CP., 0.01 μ F		
C154	08S65128F72	CP., 0.022 μ F		
C155	08S65128F12	CP., 10pF		
C201	23T74437F29	TAN., 3.3 μ F／16V		
C202	23S61524F08	ELY., 100 μ F／6.3V		
C203	08S65128F72	CP., 0.022 μ F		
C204	23S61524F13	ELY., 10 μ F／16V		
C205	23T74437F32	TAN., 10 μ F／16V		
C206	23T74437F32	TAN., 10 μ F／16V		
C207	08S65128F23	CP., 33pF		
C208	08S65128F23	CP., 33pF		
C209	08S65128F04	CP., 2pF		
C210	08S65128F69	CP., 0.01 μ F		
C211	23T15412W13	ELY., 10 μ F／16V		
C212	08S65128F31	CP., 68pF		
C213	08S65128F31	CP., 68pF		
C214	08S65128F51	CP., 470pF		
C215	23S61524F05	ELY., 22 μ F／6.3V		
C216	08T15399W03	CP., 0.047 μ F		
C217	08T15399W02	CP., 0.033 μ F		
C218	08S65128F27	CP., 47pF		
C219	08S65128F27	CP., 47pF		
C220	08S65128F27	CP., 47pF		
C221	08S65128F69	CP., 0.01 μ F		
C222	08S65128F60	CP., 1800pF		
C223	08S65128F69	CP., 0.01 μ F		
C224	23S61523F12	ELY., 10 μ F／16V		
C225	08S65128F76	CP., 0.1 μ F		
C226	23T74181F38	TAN., 10 μ F／10V		
C227	08S65128F69	CP., 0.01 μ F		
C228	08S65128F21	CP., 27pF		
C229	08S82122F13	CP., 10pF		
C230	08S82122F13	CP., 10pF		

Symbol No.	Part No.	Description		
C232	08S65128F69	CP., 0.01 μ F		
C234	08S65128F19	CP., 22pF		
C235	08T15399W02	CP., 0.033 μ F		
C236	08S65128F65	CP., 4700pF		
C238	08S65128F47	CP., 330pF		
C239	23S61524F31	ELY., 0.47 μ F/50V		
C240	08S65128F67	CP., 6800pF		
C241	08S65128F62	CP., 2700pF		
C242	08S65128F69	CP., 0.01 μ F		
C243	08T15807W05	CP., 0.1 μ F		
C244	23S61523F17	ELY., 4.7 μ F/25V		
C245	23T74181F38	TAN., 10 μ F/10V		
C246	23S61524F13	ELY., 10 μ F/16V		
C247	08S65128F74	CP., 0.047 μ F		
C248	23S61523F12	ELY., 10 μ F/16V		
C249	08S65128F74	CP., 0.047 μ F		
C250	08S65128F76	CP., 0.1 μ F		
C251	08S65128F74	CP., 0.047 μ F		
C252	23S61524F13	ELY., 10 μ F/16V		
C254	23S61524F13	ELY., 10 μ F/16V		
C255	23T74181F38	TAN., 10 μ F/10V		
C256	23S61524F13	ELY., 10 μ F/16V		
C257	23S61523F29	ELY., 1 μ F/50V		
C258	08S65128F29	CP., 56pF		
C259	08S53332F35	CP., 1000pF		
C260	08S65128F12	CP., 10pF		
C401	23S61524F13	ELY., 10 μ F/16V		
C402	23S61524F13	ELY., 10 μ F/16V		
C403	23S61523F12	ELY., 10 μ F/16V		
C404	23S61523F12	ELY., 10 μ F/16V		
C405	23S61523F12	ELY., 10 μ F/16V		
C406	23S61524F13	ELY., 10 μ F/16V		
C409	08S82122F21	CP., 22pF		
C410	08S82122F21	CP., 22pF		
C415	08S82122F37	CP., 100pF		
C416	08S82122F37	CP., 100pF		
C417	08S82122F21	CP., 22pF		
C418	08S82122F21	CP., 22pF		
C419	08T90316F17	TF, 0.01 μ F		
C420	08T90316F17	TF, 0.01 μ F		
C421	08S72783F38	CP., 1800pF		
C422	08S72783F38	CP., 1800pF		
C423	08S82122F34	CP., 75pF		
C424	08S82122F34	CP., 75pF		
C425	08S72783F37	CP., 1500pF		
C426	08S72783F37	CP., 1500pF		
C427	08T90316F21	TF, 0.022 μ F		
C428	08T90316F21	TF, 0.022 μ F		
C429	23S61523F12	ELY., 10 μ F/16V		
C430	23S61523F12	ELY., 10 μ F/16V		

Symbol No.	Part No.	Description		
C431	23S61523F12	ELY., 10 μ F/16V		
C432	23S61523F12	ELY., 10 μ F/16V		
C433	23S61523F12	ELY., 10 μ F/16V		
C434	08S65128F43	CP., 220pF		
C435	08S65128F43	CP., 220pF		
C601	23S61524F13	ELY., 10 μ F/16V		
C602	23S82482F02	ELY., 100 μ F/16V		
C604	23S61524F29	ELY., 0.22 μ F/50V		
C605	23S61523F12	ELY., 10 μ F/16V		
C606	23S61523F26	ELY., 0.22 μ F/50V		
C607	08S53332F57	CP., 0.1 μ F		
C609	23T16086W02	ELY., 330 μ F/6.3V		
C610	23S61524F13	ELY., 10 μ F/16V		
C612	23S61524F13	ELY., 10 μ F/16V		
C613	23S40657F63	ELY., 1000 μ F/16V		
C614	08S65128F76	CP., 0.1 μ F		
C615	23S82482F02	ELY., 100 μ F/16V		
C617	23S61523F12	ELY., 10 μ F/16V		
C618	23S61524F13	ELY., 10 μ F/16V		
C619	23S61524F33	ELY., 2.2 μ F/50V		
C620	23T15412W13	ELY., 10 μ F/16V		
C621	08S53332F57	CP., 0.1 μ F		
C622	23S61523F12	ELY., 10 μ F/16V		
C625	08S65128F69	CP., 0.01 μ F		
C628	08S65128F37	CP., 120pF		
C629	23T16314W01	ELY., 470 μ F/10V		
C630	23T15412W13	ELY., 10 μ F/16V		
C631	08S65128F76	CP., 0.1 μ F		
C632	08S65128F76	CP., 0.1 μ F		
C633	23T15412W13	ELY., 10 μ F/16V		
C634	23S61524F16	ELY., 47 μ F/16V		
C635	23S61523F29	ELY., 1 μ F/50V		
C636	23S61524F13	ELY., 10 μ F/16V		
C637	23S61523F29	ELY., 1 μ F/50V		
C638	08S65128F69	CP., 0.01 μ F		
C639	23S61523F12	ELY., 10 μ F/16V		
C640	08S65128F69	CP., 0.01 μ F		
C641	08T15399W02	CP., 0.033 μ F		

Resistors (All resistors are chip 1/16W±5% unless otherwise noted.)

R101	06S64995F65	3.3k ohm		
R102	06S64995F53	1k ohm		
R103	06S64995F65	3.3k ohm		
R104	06S64995F53	1k ohm		
R105	06S64995F05	10 ohm		
R106	06S64995F53	1k ohm		
R107	06S64995F15	27 ohm		
R108	06S64995F29	100 ohm		
R109	06S64995F53	1k ohm		
R110	06S64995F61	2.2k ohm		

Symbol No.	Part No.	Description		
R111	06S64995F61	2.2k ohm		
R112	06S64995F61	2.2k ohm		
R113	06S64995F81	15k ohm		
R114	06S64995F81	15k ohm		
R115	06S64995F05	10 ohm		
R116	06S64995F57	1.5k ohm		
R117	06S64995F71	5.6k ohm		
R118	06T70072F41	330 ohm 1/4W		
R119	06S64995F77	10k ohm		
R120	06S64995F77	10k ohm		
R121	06S64995F77	10k ohm		
R123	06S64996F02	100k ohm		
R125	06S64995F53	1k ohm		
R126	06S64995F89	33k ohm		
R127	06S64995F89	33k ohm		
R128	06S64996F02	100k ohm		
R129	06S64996F02	100k ohm		
R130	06S64995F53	1k ohm		
R131	06S64995F77	10k ohm		
R132	06S64995F93	47k ohm		
R133	06S64995F93	47k ohm		
R134	06S64995F65	3.3k ohm		
R135	06S64995F65	3.3k ohm		
R136	06S64995F65	3.3k ohm		
R137	06T70072F53	1k ohm 1/4W		
R138	06T70072F53	1k ohm 1/4W		
R140	06S64995F77	10k ohm		
R141	06S64995F77	10k ohm		
R142	06T70072F53	1k ohm 1/4W		
R148	06S64995F05	10 ohm		
R149	06S64995F59	1.8k ohm		
R150	06S64995F34	160 ohm		
R151	06S64995F93	47k ohm		
R152	06S64995F77	10k ohm		
R153	06S64995F65	3.3k ohm		
R154	06S64995F69	4.7k ohm		
R155	06S64996F10	220k ohm		
R156	06S64995F71	5.6k ohm		
R157	06S64995F93	47k ohm		
R158	06S64995F53	1k ohm		
R159	06S64995F53	1k ohm		
R160	06S64995F53	1k ohm		
R161	06S64995F53	1k ohm		
R162	06S64995F43	390 ohm		
R163	06S64996F26	1M ohm		
R164	06S64996F26	1M ohm		
R165	06S64995F53	1k ohm		
R166	06S64996F22	680k ohm		
R167	06S64995F61	2.2k ohm		
R168	06S64995F93	47k ohm		

Symbol No.	Part No.	Description		
R169	06S64996F02	100k ohm		
R170	06S64995F95	56k ohm		
R201	06T70072F05	10 ohm 1/4W		
R202	06S64995F53	1k ohm		
R203	06S64996F26	1M ohm		
R204	06S64995F83	18k ohm		
R205	06S64995F77	10k ohm		
R206	06S64995F55	1.2k ohm		
R207	06S64995F79	12k ohm		
R208	06S64995F93	47k ohm		
R209	06S64995F41	330 ohm		
R210	06S64996F16	390k ohm		
R211	06S64996F14	330k ohm		
R212	06S64995F99	82k ohm		
R213	06S64995F81	15k ohm		
R214	06S64995F53	1k ohm		
R215	06S64995F99	82k ohm		
R216	06S64995F99	82k ohm		
R217	06S64995F73	6.8k ohm		
R218	06S64996F11	240k ohm		
R219	06S64995F87	27k ohm		
R220	06S64995F74	7.5k ohm		
R221	06S64995F83	18k ohm		
R222	06S64995F79	12k ohm		
R223	06S64995F53	1k ohm		
R224	06S64995F85	22k ohm		
R225	06S64995F79	12k ohm		
R226	06S64995F73	6.8k ohm		
R227	06S64995F75	8.2k ohm		
R228	06S64995F75	8.2k ohm		
R229	06S64995F77	10k ohm		
R230	06S64995F85	22k ohm		
R231	06S64996F26	1M ohm		
R232	06S64995F91	39k ohm		
R233	06S64995F74	7.5k ohm		
R234	06S64995F75	8.2k ohm		
R235	06S64995F67	3.9k ohm		
R236	06S64995F61	2.2k ohm		
R237	06S64995F77	10k ohm		
R239	06S64995F73	6.8k ohm		
R240	06S64995F57	1.5k ohm		
R241	06S64996F02	100k ohm		
R242	06S64996F10	220k ohm		
R243	06S64995F85	22k ohm		
R244	06S64995F77	10k ohm		
R245	06S64996F26	1M ohm		
R246	06S64995F97	68k ohm		
R248	06S64995F97	68k ohm		
R249	06S64995F93	47k ohm		
R251	06S64995F75	8.2k ohm		

Symbol No.	Part No.	Description		
R252	06S64995F89	33k ohm		
R254	06S64995F61	2.2k ohm		
R255	06S64995F83	18k ohm		
R256	06S64996F02	100k ohm		
R257	06S64995F73	6.8k ohm		
R258	06S64995F86	24k ohm		
R259	06S64996F14	330k ohm		
R260	06S64996F02	100k ohm		
R261	06S64996F10	220k ohm		
R262	06S64995F85	22k ohm		
R263	06S64995F91	39k ohm		
R264	06S64995F93	47k ohm		
R265	06S64995F77	10k ohm		
R266	06S64995F85	22k ohm		
R267	06S64995F85	22k ohm		
R268	06S64995F85	22k ohm		
R269	06S64995F85	22k ohm		
R270	06S64995F85	22k ohm		
R271	06S64995F77	10k ohm		
R272	06S64995F77	10k ohm		
R273	06S64995F05	10 ohm		
R274	06S64995F77	10k ohm		
R275	06T70072F53	1k ohm 1/4W		
R276	06S64995F77	10k ohm		
R277	06S64996F18	470k ohm		
R278	06S64995F05	10 ohm		
R279	06S64995F85	22k ohm		
R280	06S64995F85	22k ohm		
R282	06S64995F85	22k ohm		
R283	06S64995F85	22k ohm		
R284	06S64995F13	22 ohm		
R285	06S64995F77	10k ohm		
R286	06S64995F53	1k ohm		
R287	06S64995F77	10k ohm		
R288	06S64995F69	4.7k ohm		
R289	06S64995F69	4.7k ohm		
R290	06S64995F69	4.7k ohm		
R291	06S64996F32	3.3M ohm		
R292	06S64996F26	1M ohm		
R293	06S64995F77	10k ohm		
R294	06S64996F20	560k ohm		
R295	06S64995F53	1k ohm		
R296	06S64996F18	470k ohm		
R297	06S64996F02	100k ohm		
R298	06S64995F85	22k ohm		
R320	06S64995F79	12k ohm		
R321	06S64995F77	10k ohm		
R401	06S64995F53	1k ohm		
R402	06S64995F53	1k ohm		
R403	06S64995F53	1k ohm		

Symbol No.	Part No.	Description		
R404	06S64995F53	1k ohm		
R405	06S64995F37	220 ohm		
R406	06S64995F37	220 ohm		
R407	06S64995F77	10k ohm		
R408	06S64995F77	10k ohm		
R409	06S64995F77	10k ohm		
R410	06S64995F77	10k ohm		
R411	06S64995F77	10k ohm		
R412	06S64995F77	10k ohm		
R413	06S64995F77	10k ohm		
R414	06S64995F77	10k ohm		
R415	06S64995F87	27k ohm		
R416	06S64995F87	27k ohm		
R417	06S64995F77	10k ohm		
R418	06S64995F77	10k ohm		
R419	06S64995F77	10k ohm		
R420	06S64995F77	10k ohm		
R421	06S64995F77	10k ohm		
R422	06S64995F77	10k ohm		
R423	06T70072F61	2.2k ohm 1/4W		
R424	06S64995F85	22k ohm		
R425	06T70072F61	2.2k ohm 1/4W		
R426	06S64995F61	2.2k ohm		
R427	06S64995F83	18k ohm		
R428	06S64995F83	18k ohm		
R429	06S64995F77	10k ohm		
R430	06S64995F77	10k ohm		
R431	06S64995F77	10k ohm		
R432	06S64995F77	10k ohm		
R433	06S64996F26	1M ohm		
R434	06S64996F26	1M ohm		
R435	06S64995F53	1k ohm		
R436	06S64995F53	1k ohm		
R437	06S64995F53	1k ohm		
R438	06S64995F53	1k ohm		
R439	06S64995F77	10k ohm		
R440	06S64995F77	10k ohm		
R441	06S64996F04	120k ohm		
R442	06S64996F04	120k ohm		
R443	06S64995F90	36k ohm		
R444	06S64995F90	36k ohm		
R445	06S64996F02	100k ohm		
R446	06S64996F02	100k ohm		
R447	06S64995F85	22k ohm		
R448	06S64995F85	22k ohm		
R449	06S64995F85	22k ohm		
R450	06S64995F85	22k ohm		
R451	06S64996F02	100k ohm		
R452	06S64996F02	100k ohm		
R453	06S64995F57	1.5k ohm		

Symbol No.	Part No.	Description		
R454	06S64995F57	1.5k ohm		
R455	06S64996F18	470k ohm		
R456	06S64996F18	470k ohm		
R457	06S64995F66	3.6k ohm		
R458	06S64995F66	3.6k ohm		
R459	06S64995F70	5.1k ohm		
R460	06S64995F70	5.1k ohm		
R461	06S64995F93	47k ohm		
R462	06S64995F93	47k ohm		
R463	06S64995F70	5.1k ohm		
R464	06S64995F70	5.1k ohm		
R465	06S64996F34	4.7M ohm		
R466	06S64996F34	4.7M ohm		
R467	06S64995F73	6.8k ohm		
R468	06S64995F85	22k ohm		
R470	06S64995F85	22k ohm		
R471	06S64995F85	22k ohm		
R472	06S64995F19	39 ohm		
R473	06S64996F02	100k ohm		
R601	06S64995F77	10k ohm		
R602	06T70072F61	2.2k ohm 1/4W		
R604	06T70072F53	1k ohm 1/4W		
R605	06T70072F53	1k ohm 1/4W		
R606	06S64995F05	10 ohm		
R607	06T70072F65	3.3k ohm 1/4W		
R608	06S64995F69	4.7k ohm		
R609	06S64995F85	22k ohm		
R610	06S64995F69	4.7k ohm		
R611	06S64995F85	22k ohm		
R612	06T70072F78	2.2 ohm 1/4W		
R613	06S64995F85	22k ohm		
R614	06S64995F61	2.2k ohm		
R615	06S64995F77	10k ohm		
R616	06S64995F77	10k ohm		
R617	06S64995F77	10k ohm		
R618	06S64995F69	4.7k ohm		
R619	06S64995F53	1k ohm		
R620	06S64995F77	10k ohm		
R621	06T70072F53	1k ohm 1/4W		
R622	06S64995F99	82k ohm		
R624	06S64995F45	470 ohm		
R625	06S64995F77	10k ohm		
R626	06T70072F53	1k ohm 1/4W		
R627	06T70072F37	220 ohm 1/4W		
R628	06S64995F81	15k ohm		
R629	06S64995F70	5.1k ohm		
R630	06S64995F87	27k ohm		
R631	06S64995F78	11k ohm		
R632	06S64995F77	10k ohm		
R633	06T70072F45	470 ohm 1/4W		

Symbol No.	Part No.	Description		
R634	06S64995F77	10k ohm		
R635	06S64995F61	2.2k ohm		
R636	06S64996F10	220k ohm		
R637	06S64995F77	10k ohm		
R638	06S64995F77	10k ohm		
R639	06S64996F02	100k ohm		
R640	06S64996F02	100k ohm		
R641	06S64996F02	100k ohm		
R642	06S64996F02	100k ohm		
R643	06S64996F02	100k ohm		
R646	06S64996F02	100k ohm		
R647	06S64995F93	47k ohm		
R648	06S64995F77	10k ohm		
R649	06S64995F77	10k ohm		
R650	06S64995F77	10k ohm		
R651	06S64995F63	2.7k ohm		
R652	06S64996F02	100k ohm		
R653	06S64996F02	100k ohm		
R654	06S64995F81	15k ohm		
R655	06T70072F29	100 ohm 1/4W		
R656	06T70072F47	560 ohm 1/4W		
R657	06S64996F02	100k ohm		
R658	06S64995F77	10k ohm		
R659	06T70072F53	1k ohm 1/4W		
R660	06S64996F02	100k ohm		
R661	06S64995F77	10k ohm		
R662	06S64995F77	10k ohm		
R663	06S64995F77	10k ohm		
R665	06S64995F85	22k ohm		
R666	06T70072F53	1k ohm 1/4W		
R668	06T70072F47	560 ohm 1/4W		
R669	06S64995F69	4.7k ohm		
R670	06S64995F53	1k ohm		
R671	06S64995F61	2.2k ohm		
R672	06S64995F85	22k ohm		
R673	06S64995F53	1k ohm		
R674	06S64995F45	470 ohm		
R680	06S64995F65	3.3k ohm		
R681	06S64996F03	110k ohm		
R682	06S64996F04	120k ohm		
R683	06S64996F02	100k ohm		
R684	06S64995F91	39k ohm		
R685	06S64995F93	47k ohm		
R686	06S64995F93	47k ohm		
R688	06S53330F77	10k ohm 1/8W		
R689	06T70072F45	470 ohm 1/4W		
VR101	18T10024W03	Variable, 220 ohm		
VR201	18T15805W19	Variable, 100k ohm		
VR406	18T25095W01	Variable, 220 ohm		

Symbol No.	Part No.	Description		
VR401-1				
VR401-2				
VR401-3				
VR401-4	18T15283W01	Volume, Rotary		
VR401-5		(VOLUME/BAL/		
VR401-6		FAD)		
S801		(POWER)		
S905		(SDK)		
Load/Photo P. C. Board				
IC/Transistors				
IC301	51T15267W01	IC, LB1641		
Q305	48T62967F03	CP., DTC124K		
Q306	48T62966F03	CP., DTA124		
Q307	48T83415F03	2SD1858		
Q308	48T83415F03	2SD1858		
PT301	48T92913F01	PHOTO, PT360		
PT302	48T92913F01	PHOTO, PT360		
PT303	48T92913F01	PHOTO, PT360		
LEDs/Diodes				
LD301	48T16057W02	LED, AN 501-B1 (RED)		
LD302	48T16057W02	LED, AN 501-B1 (RED)		
LD303	48T16057W02	LED, AN 501-B1 (RED)		
ZD301	48T15440W12	Zener, UTZJ6.2C		
ZD302	48T15440W08	Zener, UTZJ5.6B		
ZD303	48T15440W28	Zener, UTZJ11A		
Capacitors				
C301	08S65128F69	CP., 0.01 μF		
C302	08S65128F69	CP., 0.01 μF		
C303	23T74437F32	TAN., 10 μF/16V		
C304	23S61523F12	ELY., 10 μF/16V		
Resistors (All resistors are chip 1/8W±5% unless otherwise noted.)				
R301	06S53330F47	560 ohm		
R302	06S53330F47	560 ohm		
R303	06S53330F47	560 ohm		
R304	06S53331F02	100k ohm		
R305	06S53331F02	100k ohm		

Symbol No.	Part No.	Description		
R306	06S53331F02	100k ohm		
R307	06T70072F45	470 ohm 1/4W		
R309	06C43205J38	Metal Film, 10 ohm 1/2W		
R310	06S53330F47	560 ohm		
R311	06S53331F02	100k ohm		
R312	06T70072F53	1k ohm 1/4W		
Main-Front P. C. Board				
IC's				
IC405	51T92001F01	BA4560F		
or	51T93338F01	NJM4560E		
IC901	51T15269W02	MSC1149GS		
IC902	51T15269W02	MSC1149GS		
Transistors				
Q901	48T63419F01	CP., 2SA1036K		
Q903	48T63461F01	CP., 2SC2411K		
Diodes/LED				
D901	48T94608F01	CP., DA204U		
ZD901	48T62934F27	Zener, CP., RD6.8MB1		
LD902	48T42449F12	LED, BG5535K (GRN)		
Switches				
S901	40T66861F03	Tact, SKHHAQ (RESET)		
S902	40T66861F03	Tact, SKHHAQ (MONO)		
S903	40T66861F03	Tact, SKHHAQ (DX)		
S904	40T66861F03	Tact, SKHHAQ (TU/BAND)		
S906	40T66861F03	Tact, SKHHAQ (UP)		
S907	40T66861F03	Tact, SKHHAQ (4)		
S908	40T66861F03	Tact, SKHHAQ (5)		
S909	40T66861F03	Tact, SKHHAQ (6)		
S910	40T10876W12	Tact, SKHLAJ (SEEK)		
S911	40T66861F03	Tact, SKHHAQ (DOWN)		

Symbol No.	Part No.	Description		
S912	40T66861F03	Tact, SKHHAQ (1/MIX)		
S913	40T66861F03	Tact, SKHHAQ (2/REP)		
S914	40T66861F03	Tact, SKHHAQ (3/SCAN)		
S915	40T66861F03	Tact, SKHHAQ (PLAY/PAUSE)		
S916	40T66861F03	Tact, SKHHAQ (EJECT)		
Lamps				
PL901	65T95274F02	Pilot, 6V-70mA		
PL902	65T95274F02	Pilot, 6V-70mA		
PL903	65T67467F03	Pilot, 6V-32mA		
PL904	65T95274F02	Pilot, 6V-70mA		
Capacitors				
C408	23S61523F12	ELY., 10 μF/16V		
C411	08T90316F22	TF, 0.027 μF		
C412	08T90316F22	TF, 0.027 μF		
C413	08T90316F15	TF, 6800pF		
C414	08T90316F15	TF, 6800pF		
Resistors (All resistors are chip 1/16W±5% unless otherwise noted.)				
R901	06S64995F77	10k ohm		
R902	06S64995F65	3.3k ohm		
R903	06T70072F05	10 ohm 1/4W		
R905	06S64995F70	5.1k ohm		
R906	06S64995F64	3k ohm		
R907	06S64995F60	2k ohm		
R908	06S64995F91	39k ohm		
R909	06S64995F70	5.1k ohm		
R910	06S64995F64	3k ohm		
R911	06S64995F60	2k ohm		
R912	06S64995F88	30k ohm		
R913	06S64995F77	10k ohm		
R914	06S64995F70	5.1k ohm		
R915	06S64995F64	3k ohm		
R916	06S64995F60	2k ohm		
R917	06S64995F45	470 ohm		
R918	06T70072F37	220 ohm 1/4W		
VR404	18T15284W01	Volume, Slide (Treble)		
VR405	18T15284W01	Volume, Slide (Bass)		

Symbol No.	Part No.	Description		
QRB P. C. Board				
Capacitors				
C650	08S65128F57	CP., 1000pF		
C651	08S65128F57	CP., 1000pF		
C652	08S65128F57	CP., 1000pF		
C653	08S65128F57	CP., 1000pF		
C654	08S65128F57	CP., 1000pF		
C655	08S65128F57	CP., 1000pF		
C656	08S65128F57	CP., 1000pF		
C657	08S65128F57	CP., 1000pF		
C658	08S65128F57	CP., 1000pF		
C659	08S65128F57	CP., 1000pF		
C660	08S65128F57	CP., 1000pF		
C661	08S65128F57	CP., 1000pF		
C662	08S65128F57	CP., 1000pF		
C663	08S65128F57	CP., 1000pF		
Miscellaneous				
BA601	60T91060F01	Battery Lithium (CR2032-HE2)		
E801	09T15921W03	QRB, Connector (22P)		
FL901	65T15282W03	FL Display, VFD (6-BT-86N)		
HD201	88T15309W01	Pick Up		
LD304	48T16057W02	LED, AN501		
M301	01V13100W97	Assy., Motor Load		
M302	59T91005F01	Motor, Spindle		
M303	59T52973F03	Motor, Sled		
PT304	48T92913F01	Transistor, Photo PT360		
S301	40T71025F03	Switch, Detector (CAM END)		
S302	40T71025F01	Switch, Detector (LIMIT)		
SD301	01A90816F01	Assy., DP Frame Solenoid		

Packing Assembly Parts List

Symbol No.	Part No.	Description		
101	01V11900W92	Assy., Installation Kit		
101-1	02B47353F01	Nut, Hex (M5)		
101-2	03S40012G66	Screw, Tapping (M5 × 20)		
101-3	03B44963F03	Bolt, Hex W/Washer (M5 × 10)		
101-4	03A40155F05	Bolt, Hex (M5 × 14)		
101-5	03A40155F01	Bolt, Hex (M5 × 8)		
101-6	03A84814F04	Screw, Bind (M2.6 × 18)		
101-7	43A58272F04	Spacer		
101-8	45A41684U01	Arm, Adapter		
102-1	68P10790W82	Owner's Manual		
102-2	68P13420W34	Owner's Manual		
103	56S12717W29	Carton, Packing (Individual)		
104	56D13048W01	Tray, Packing (L)		
105	56D13048W02	Tray, Packing (R)		
106	56B40990T36	Sack, Polyethylene		

Symbol No.	Part No.	Description		
107	07B64552F01	Bracket, Strap Receiver		
108	01V16200W69	Assy., Mother Case		
108-1	01T94603F07	Assy., QRB Connector (PLUG)		
108-2	15D94518F01	Case, Mother		
108-3	03S44205G33	Screw, Pan (M2.6 × 8)		
108-4	03S44205G07	Screw, Pan (M2.6 × 5)		
109	01T96095F01	Assy., Connector (4P)		
110	01T15832W01	Assy., RCA 600		

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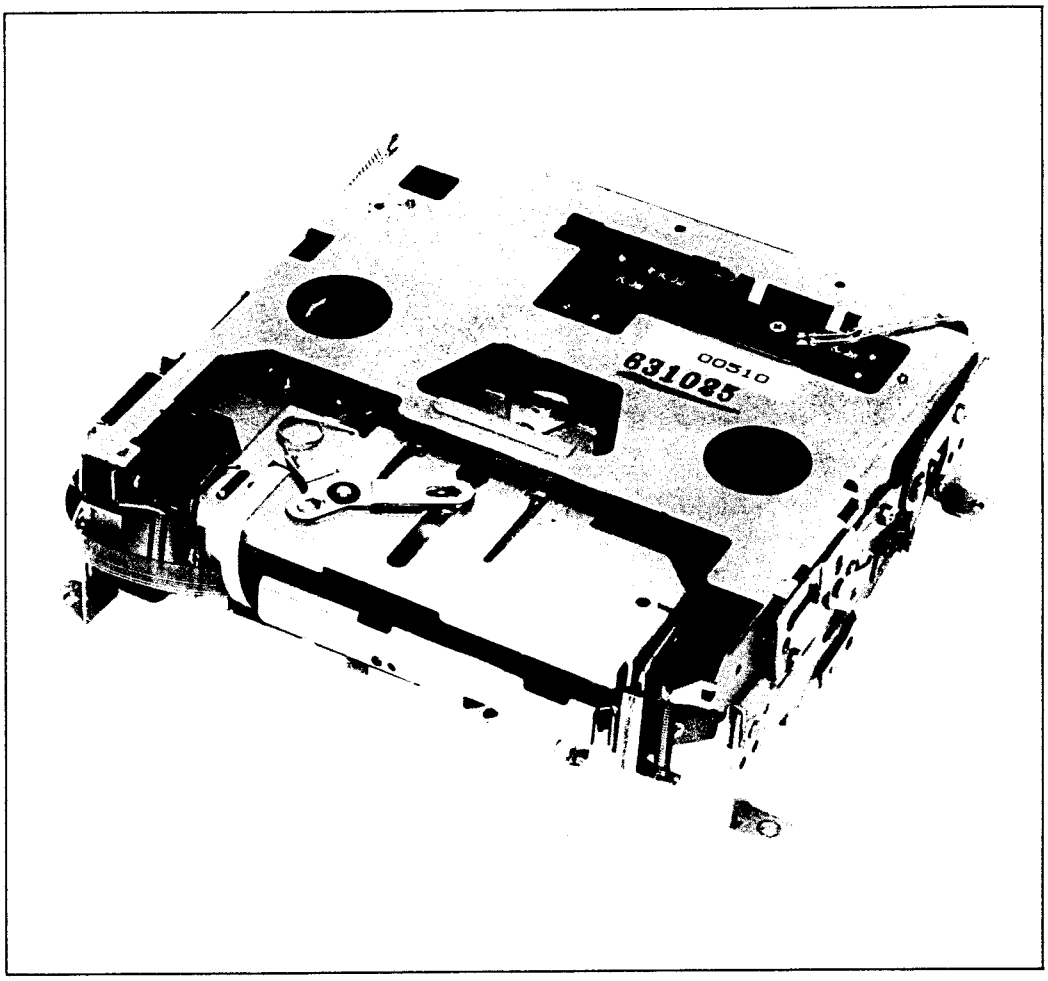
ALPINE SERVICE MANUAL

CD Player Mechanism

ADDENDUM & REVISED (III)



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DP-S SERIES

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Mechanism Function Description

Function	Step	Description	Illustration
LOADING (of a 12cm CD)	①	The beam to the photo sensor (A) will be broken when a disc is inserted into the loading position.	Figure 1
	②	The mechanism detects the disc insertion and actuates the Loading motor to rotate. The rotation of motor is transmitted to the drive roller through gears (E), (D), (B) and (A).	Figure 2 Figure 7
	③	The disc will be pinched between the drive roller and the upper guide and pulled into the mechanism.	Figure 7
	④	The disc reaches to the sensor gate mechanism. The beam to the photo sensor (D) is broken, and simultaneously the micro-processor discriminates 12 or 8cm CD size depending on the photo sensor (B). If the beam to the photo sensor (B) is broken, the micro-processor detects that the disc is a 12cm CD and it continues feeding the disc.	Figure 3

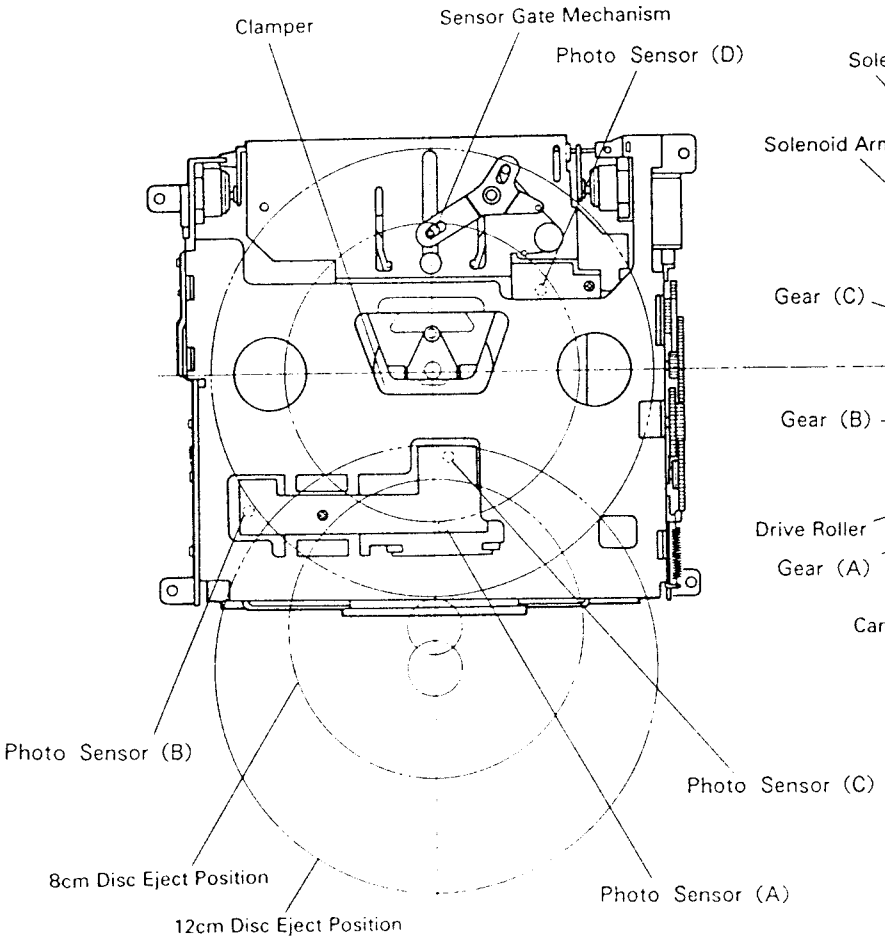


Figure 1

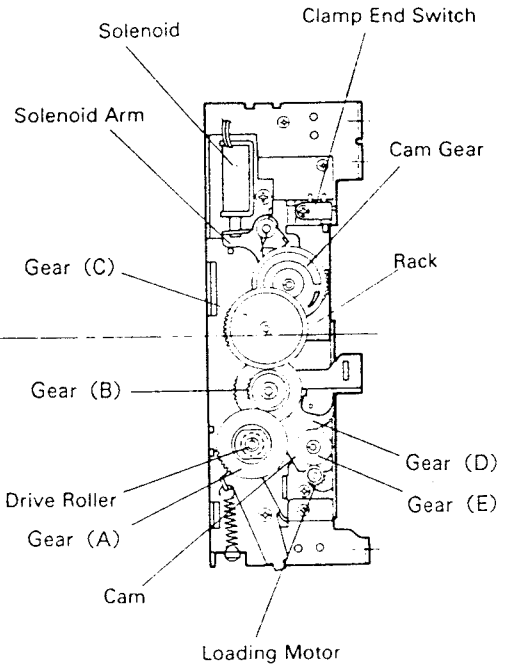


Figure 2

Function	Step	Description	Illustration
LOADING (of a 12cm CD)	⑤	The disc touches the left and right stopper pins, and push them by the feed mechanism. By pushing the stopper pins, the left and right lock levers rotate and the lock pins remove from the lock position of the guide holes.	Figure 3
	⑥	The disc touches the disc stopper and moves the unlocked sensor gate to the outer direction by the feed mechanism.	Figure 4
	⑦	If the disc reaches to the end position, the beam reaches to the photo sensor (B).	Figure 4
	⑧	The mechanism detects that the disc is pulled into the chucking position and starts chucking action.	Figure 4

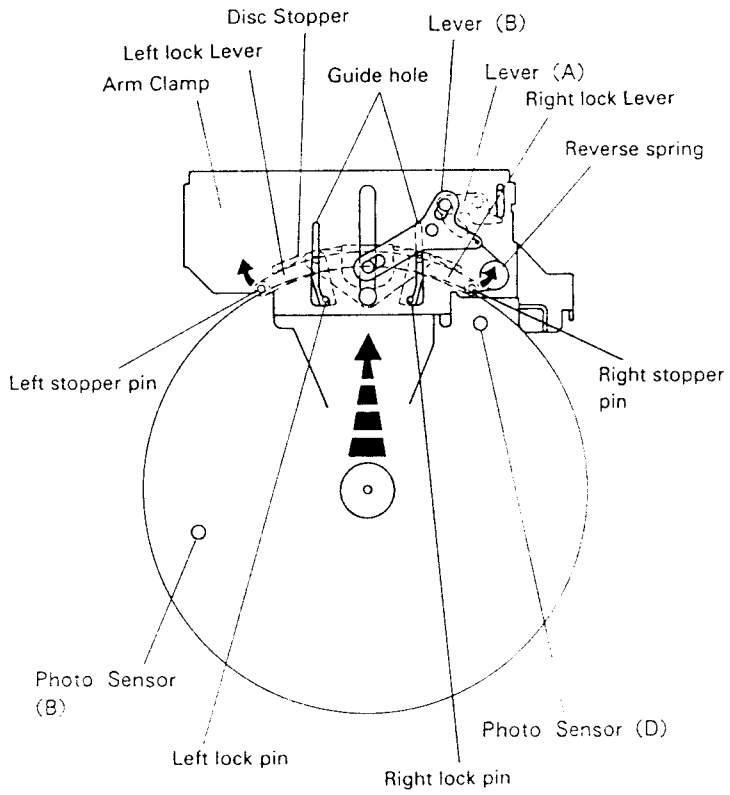


Figure 3

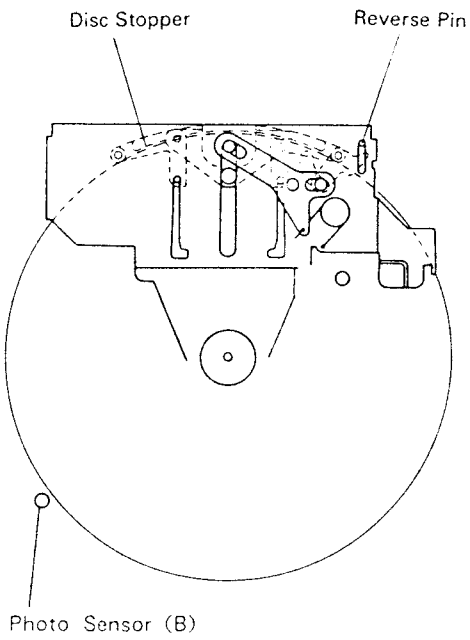
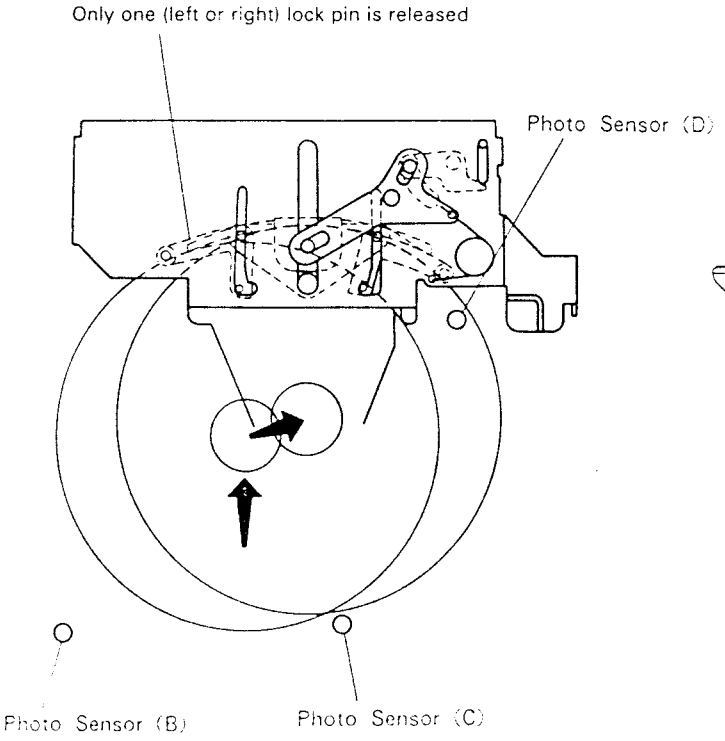


Figure 4

Function	Step	Description	Illustration
LOADING (of a 8cm CD)	① ② ③	The same process as 12cm CD loading operation steps ①~③.	Figure 1 Figure 2 Figure 7
	④	The disc reaches to the sensor gate mechanism. The sensor gate mechanism moves depending on the disc insertion position at the disc slot as follows. A) When the disc is inserted at the center of the slot. The disc touches to the disc stopper. The disc cannot push both the left and right stopper pins, so that the locking pins cannot be released. The disc movement stops there. B) When the disc is inserted at the deviated position to the left or right from the center of the slot. First, the disc pushes the left or right stopper pin. The disc cannot push the another stopper pin, so that the locking pins cannot be released. The disc moves by the shape of the disc stopper to the center position and stops.	Figure 5
	⑤	If the beam reaches to the photo sensor (B) and (C) when the beam to the photo sensor (D) is broken by the disc, the mechanism discriminates that the 8cm CD is in the chucking position, and starts chucking action.	Figure 5



When a disc is inserted at the left from the center of the slot.

Figure 5

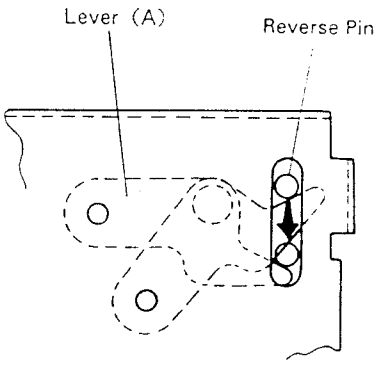


Figure 6

Function	Step	Description	Illustration
CHUCKING	①	The mechanism detects that the disc is pulled into the Chucking position and pulls the solenoid.	Figure 8
	②	The solenoid arm connected with the solenoid, starts to rotate and transmits the rotation to the cam gear.	Figure 8
	③	The cam gear starts to rotate and engages with the gear (C) then the driving power of the Loading motor will be transmitted to the cam gear.	Figure 8
	④	The rotating cam gear engages with rack, and moves the rack toward the right.	Figure 8
	⑤	With the movement of the rack, the following functions will be performed simultaneously. A. The clamper moves downward and chucks the disc. B. The drive roller moves downward and releases the disc pinched previously and moves the disc downward. C. Releases the locking on the pickup block and places the unit in the floating status.	Figure 8 Figure 9 Figure 10
	⑥	The rack slides to the right end and releases the engagements between the gear (C) and the cam gear as well as the cam gear and rack, and turns the clamp end switch on.	Figure 8
	⑦	The mechanism detects that the clamp operation has finished, and the Loading motor stops rotating.	Figure 8

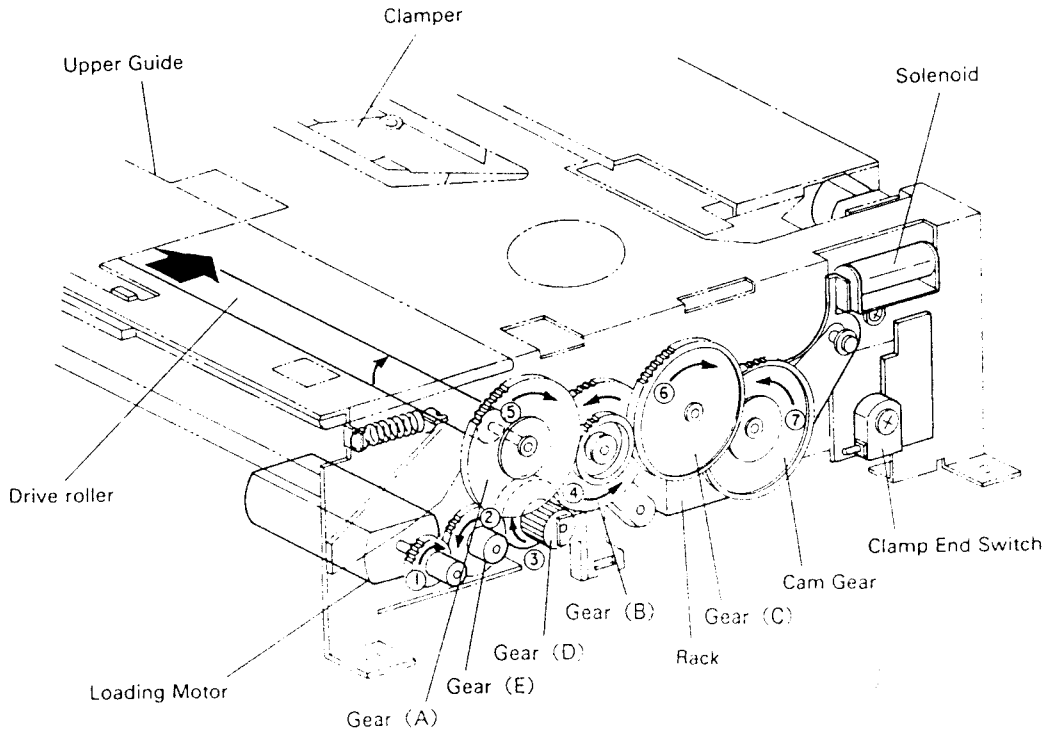


Figure 7

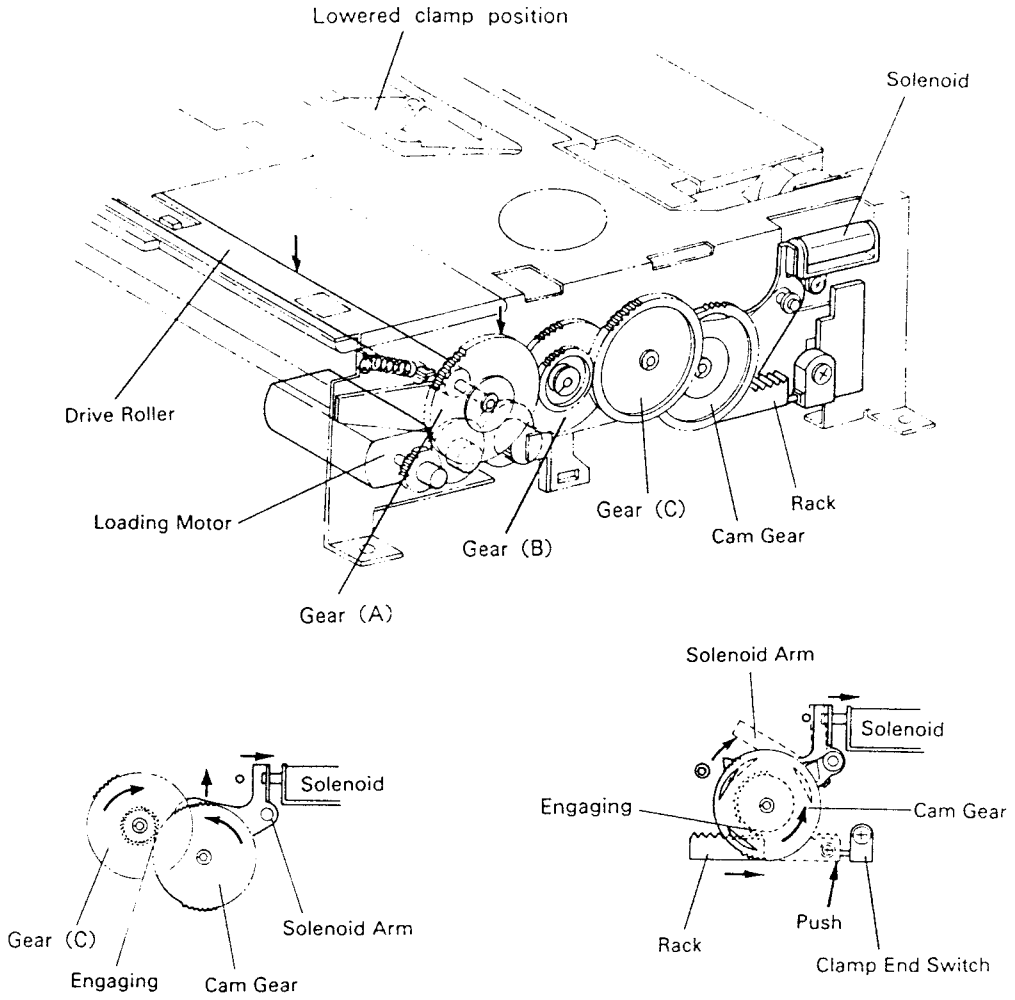


Figure 8

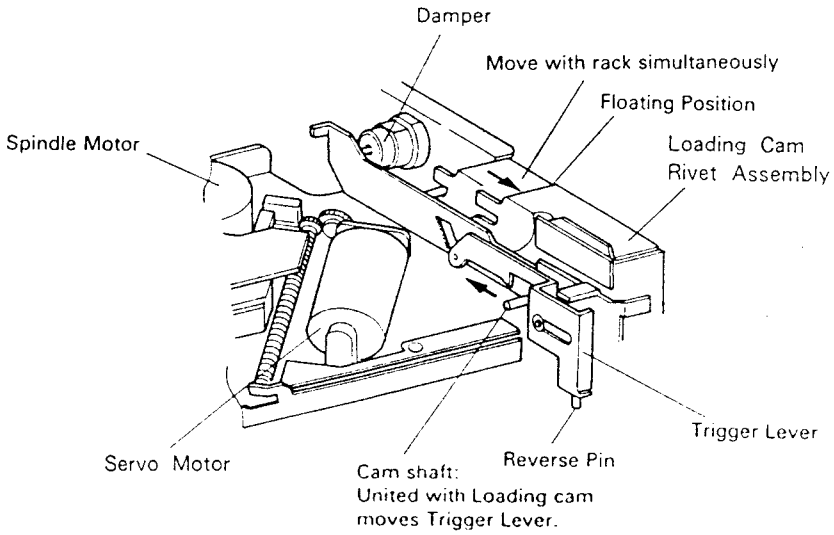


Figure 9

Function	Step	Description	Illustration
PLAY	①	The spindle motor rotates the disc.	Figure 10
	②	The rotation of the servo motor is transmitted to the shaft screw through the gear, moves the pickup.	Figure 10
	③	The Inner limit switch detects the lead-in position of the disc, and the mechanism begins to read the information of the disc.	Figure 10

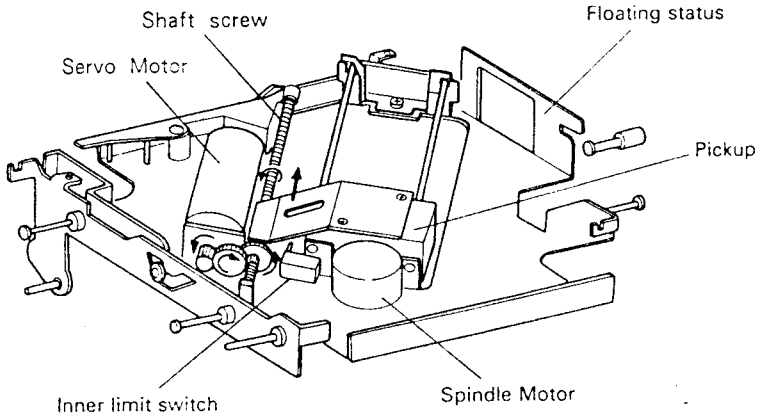


Figure 10

Function	Step	Description
EJECTION (of a 12cm CD)	①	The Loading motor rotates in the reverse direction when loading.
	②	Pulls the solenoid.
	③	The solenoid arm engaged with the solenoid starts rotating and the cam gear engages with the gear (C).
	④	The cam gear rotates and engages with the rack and then moves the rack in the left direction.
	⑤	Engaging with the movement of the rack, the following functions will be performed simultaneously. A. The clamper moves upward and releases the disc. B. The driving roller moves up and lifts the disc, and pinches the disc between it and the upper guide. C. Locks the pickup block. D. The reverse pin moves with engaging the levers (A) and (B), which moves the sensor gate mechanism to the original position.
	⑥	When the rack moves to the left, the engagements between the gear (C) and the cam gear, the cam gear and the rack will be released.

Function	Step	Description
EJECTION (of a 12cm CD)	⑦	The disc which is pinched between the drive roller and the upper guide moves to the outside of the mechanism. When the disc is sent out to the EJECT position, the beam broken by the disc is released and reaches the photo sensor (B).
"	⑧	The mechanism detects that the disc has come out to the EJECT position and stops the motor rotation.
	⑨	The mechanism detects that all functions have finished when the disc is pulled out from the mechanism and beam is passed through to the photo sensor (A).
RELOAD (of a 12cm CD)	①	If the disc is not pulled out from the mechanism for 15 seconds after it comes to the EJECT position, the mechanism actuates the Loading function steps ① – ⑧.
EJECTION (of a 8cm CD)	① ② ③ ④	The same process as 12cm CD Eject operation steps ①~④.
	⑤	Engaging with the movement of the rack, the following functions will be performed simultaneously. A. B. ├ The same process as 12cm CD Eject operation step⑤ – A, B, C. C.
	⑥	The same process as 12cm CD Eject operation step ⑥.
	⑦	The disc which is pinched between the drive roller and the upper guide moves to the outside of the mechanism. The disc is released from the drive roller and stops.
	⑧	If the beam reaches the photo sensor (C) after 1.5 seconds from starting ejection, the motor stops.
	⑨	The mechanism detects that all functions have finished. when the disc is pulled out from the mechanism and beam is passed through to the photo sensor (A).

Function	Step	Description
TROUBLE SHOOTING (While Loading a 12cm CD)	①	If the beam to the photo sensor (D) is not broken within 3 seconds after the Loading motor begins rotating as described in the Loading operation step ②, the mechanism takes it as trouble and rotates the Loading motor inversely and pushes the disc out to the EJECT position.
	②	In the Loading step ④, if the beam does not reach the photo sensor (D) within 3 seconds after the beam to the photo sensor (B) is broken, the mechanism take it as trouble and rotates the loading motor inversely and push the disc out to the eject position. If the disc is removed and the beam reaches the photo sensor (A), the mechanism performs loading, chucking and ejection without a disc. (To place the sensor gate mechanism from the END position to the original position the mechanism operates the Ejection step ⑤ – d)
	③	When the disc is pulled out during the loading process, the Loading motor rotates inversely and stops the rotating after certain seconds.
(While loading a 8cm CD)	①	The same process as 12cm CD loading operation step ①.
	②	The same process as 12cm CD loading operation step ③.
(While Chucking)	①	In the chucking operation (step ①) if the Clamp End Switch doesn't turn on within 3 seconds after the solenoid is pulled, the mechanism takes it as trouble and rotates the Loading motor inversely and pushes the disc out and stops at the EJECT position. When the disc doesn't come to the EJECT position, the motor stops the rotating after certain seconds.
(While Playing)	①	After disc chucking, if the mechanism is unable to read the information of the disc for some reason, it actuates the EJECTION operation steps.
(While Ejecting a 12cm CD)	①	If the disc doesn't come to the EJECT position within 5 seconds after the solenoid is pulled in the EJECTION operation step ①, the mechanism takes it as trouble and rotates the Loading motor inversely and performs the Loading operation steps.
(While Ejecting a 8cm CD)	①	If the beam does not reach the photo sensor (C) within 1.5 seconds after starting ejection, the motor continues rotating. If the beam does not reach the photo sensor (C) within 5 seconds after starting ejection, the mechanism takes it as trouble and changes the motor rotating direction and performs loading steps.

Disassembly Instructions

● For DP24A010/DP24A020/ DP24A110/DP24A11A/ DP24A210/DP24A220 models

1. **Removal of the Load/Photo P. C. Boards**
   (1) Remove three screws marked with "○" as shown in Figures 11 and 12.
   (2) Remove the solder (c) as shown in Figure 11.

2. **Removal of the LED P. C. Board**
   (1) Remove the solder (b) as shown in Figure 12.
   (2) Remove the screw marked with "▲" as shown in Figure 12.

3. **Removal of the End Switch (A) P. C. Board**
   (1) Remove the two screws marked with "●" as shown in Figure 13.
   (2) Remove the two lead wires from the solenoid.

4. **Removal of the Pick-Up Unit**
   (1) Remove the cam gear and the gear (C) as shown in Figure 13.
   (2) Remove the four screws marked with "※" as shown Figures 13 and 14.
   (3) Both the Pick-Up Unit and Rivet Loading Bracket Assembly will be removed.

Note :The cam gear and gear (C) are mounted with washers. Do not lose the washers. keep them carefully.

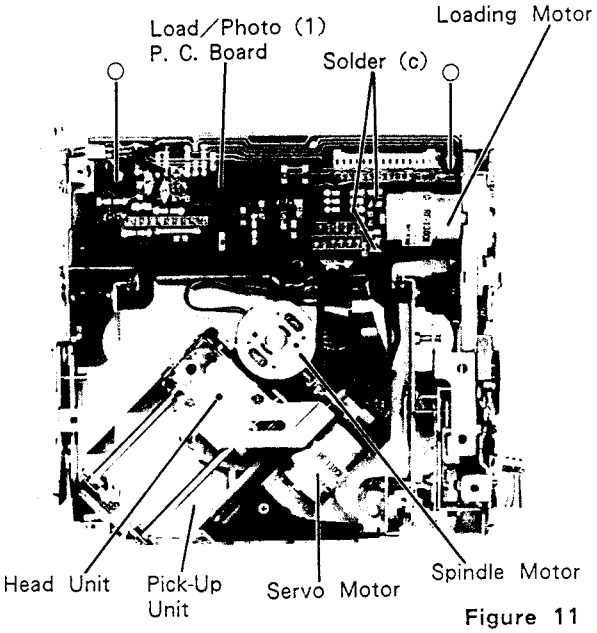


Figure 11

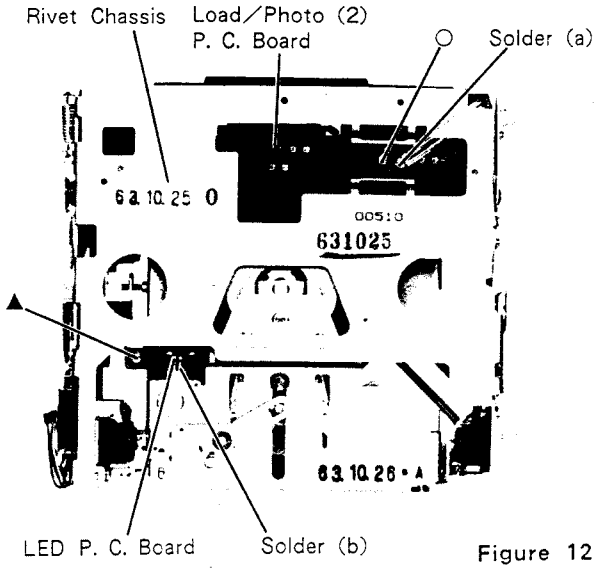


Figure 12

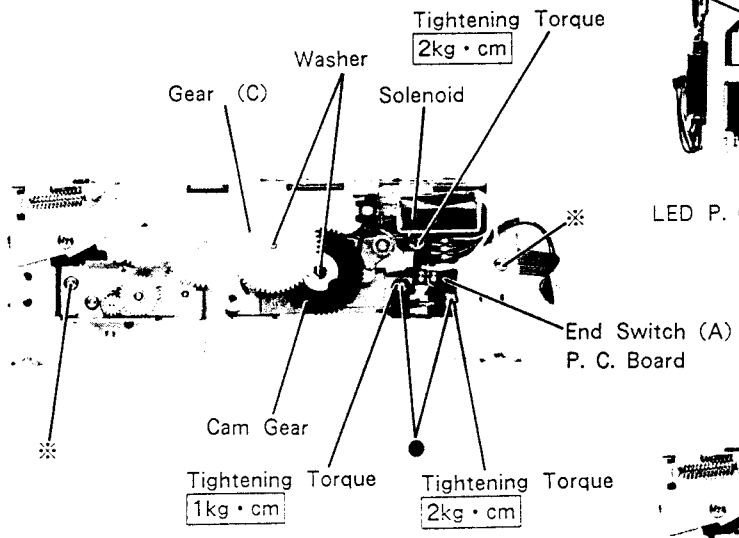


Figure 13

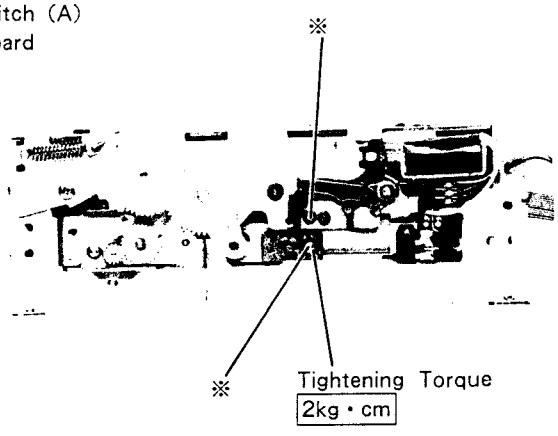


Figure 14

5. **Removal of the Rivet Loading Bracket Assembly**
   (1) After removing the Pick-Up Unit, pull the Rivet Loading Bracket Assembly toward you while twisting it in the direction shown by the arrow, as shown in Figure 15.

6. **Removal of the Servo Motor [For DP24A01O / DP24A02O / DP24A11O / DP24A11A / DP24A21O models only]**
   (1) After removing the Rivet Loading Bracket Assembly, remove the two screws marked with "□" as shown in Figure 16.
   Note :Both the Servo Motor and Flexible wire will be removed. Do not damage the flexible wire.

7. **Removal of the Head Unit [For DP24A01O/ DP24A02O/DP24A11O/DP24A11A/DP24A21O models only]**
   (1) After removing the Servo Motor, remove the two screws marked with "◆" as shown in Figure 16.

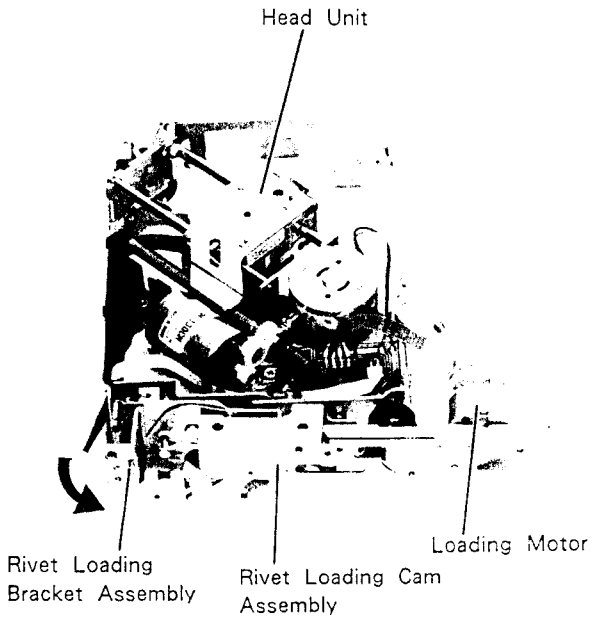


Figure 15

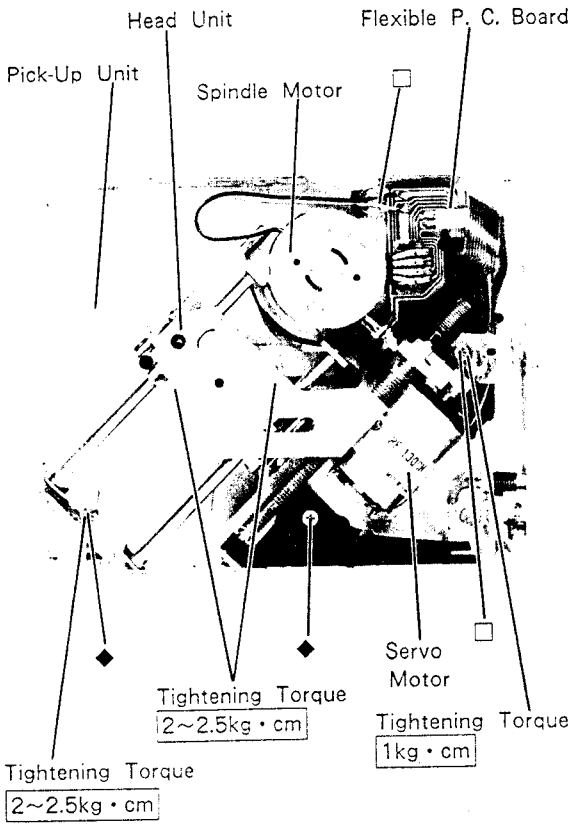


Figure 16

6. **Removal of the Servo Motor [For DP24A220 models only]**
   (1) After removing the Rivet Loading Bracket Assembly, remove the two screws marked with "□" as shown in Figure 17.
   Note :Both the Servo Motor and Flexible wire will be removed. Do not damage the flexible wire.

7. **Removal of the Head Unit [For DP24A220 models only]**
   (1) After removing the Servo Motor, remove the five screws marked with "◆" as shown in Figure 17.

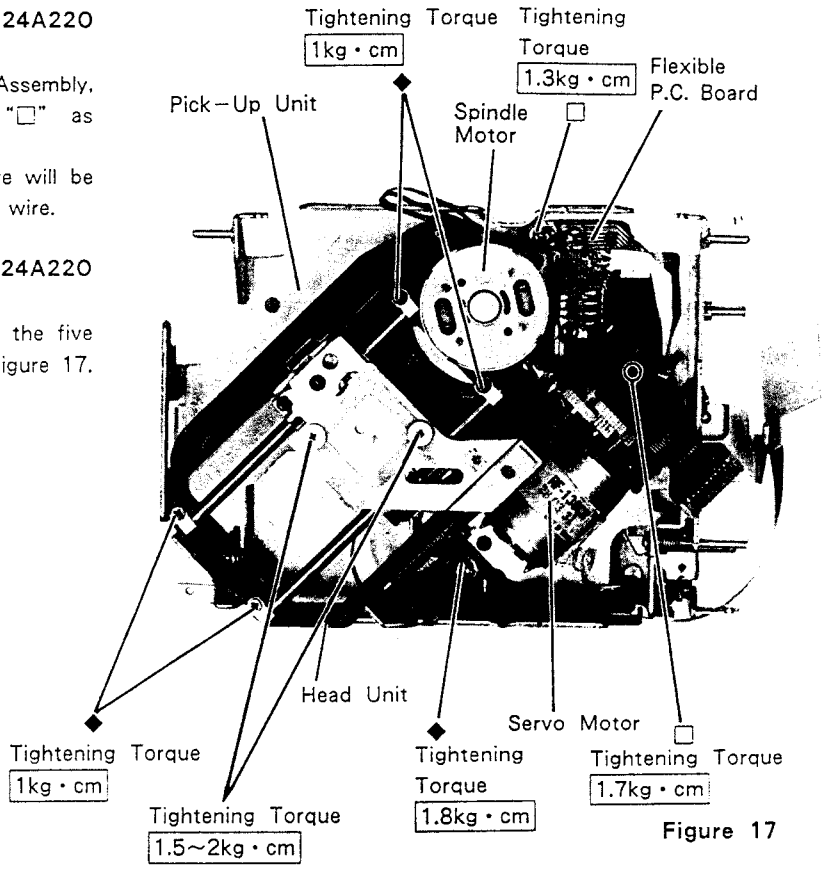


Figure 17

8. **Removal of the Rivet Loading Cam Assembly**
   (1) After removing the Rivet Loading Bracket Assembly, remove the gear (D) and gear (E) as shown in Figure 18.
   (2) Remove the Washer and "E" ring as shown in Figures 18 and 20.
   Note : 1) Do not lose the washer and "E" ring and keep them carefully.
   2) Remove the spring and them at the same time as shown in Figure 18.

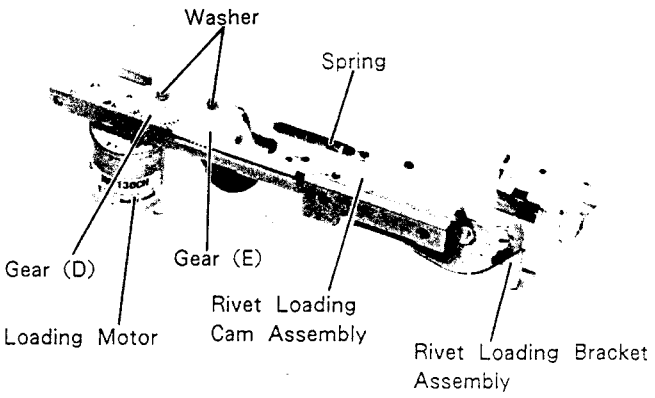


Figure 18

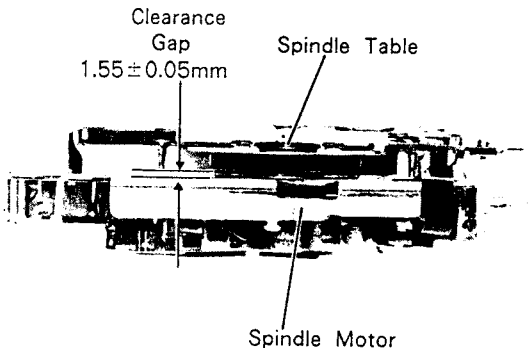


Figure 19

9. Removal of the Loading Motor.

(1) After removing the Rivet Loading Cam Assembly, remove the two screws marked with "△" as shown in Figure 20.

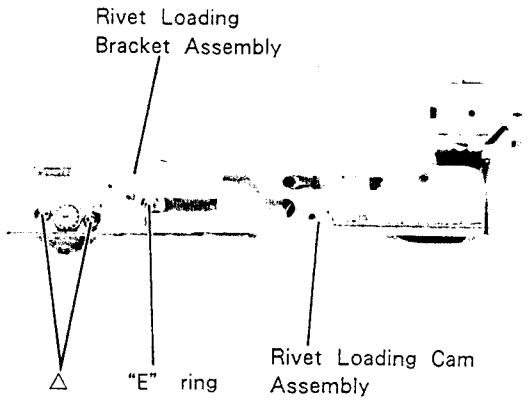


Figure 20

※**Useful hints for remounting the cam gear and gear (C).**

(1) Set the Rivet Loading cam Assembly to the loading position as shown in Figure 21.

(2) Engage the cam gear with the gear (C) as shown in the Figure 22, and mount them on the shafts (A) of the Arm Load (R) Assembly as shown in Figure 21.

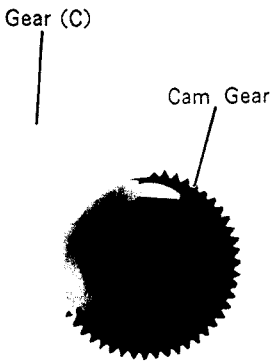


Figure 22

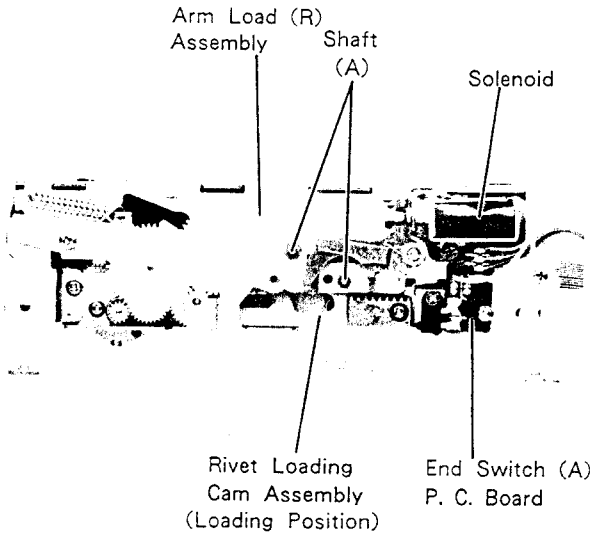


Figure 21

※**Caution on remounting the Servo Motor.**

(1) After mounting the servo motor, make sure the clearance between the servo motor and flexible wire is more than 0.5mm as shown in Figure 23.

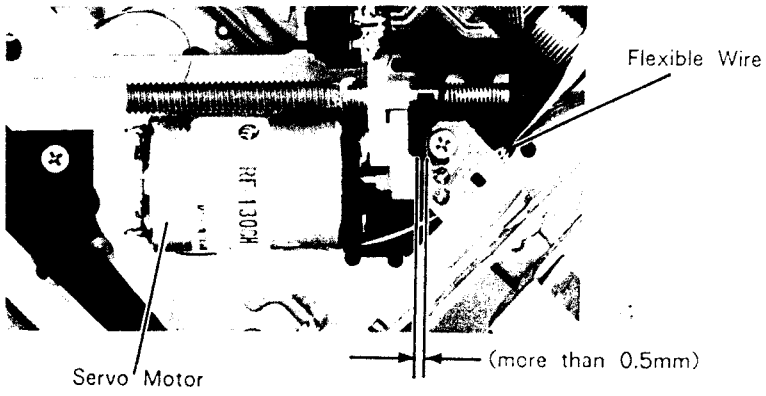


Figure 23

CD Mechanism Assembly Parts List

●For DP24A010/DP24A020/DP24A110/DP24A11A/DP24A210 Models

Symbol No.	Index	Part No.	Description
202	4-H	15C13518W01	Guide, Top (DP-2)
203	5-C	03S44205G14	Screw, Pan (M2 × 5)
204	5-B	30T73687F18	Parallel Wire (2P)
205	4-C	41B12249W02	Spring, Pull
206		04B41345P06	Washer, Lock (M2.1)
207	1-E	41A20219W01	Spring, ROL (L)
208	5-F	45A90817F01	Arm, Solenoid (1)
209	5-F	45A90818F01	Arm, Solenoid (2)
210	5-F	41A92364F01	Spring, Solenoid
211	2-F	07B10907W01	Stopper, Disc
212	4-F	47A61544F02	Plunger, RF Solenoid
213	3-G	75A20934W01	Cushion, Magnet (B)
214	4-F	84A92276F01	END Switch (A) P.C. Board
215		03D40014G66	Screw, W/Washer (M2 × 3.5)
216		03D40014G07	Screw, W/Washer (M2 × 4)
217	4-F	44B90838F01	Gear, Cam
218	4-C	46A91007F02	Stud, Gear
219	4-E	41B12249W07	Spring, Pull
221	2-F	49B90822F01	Roller (G)
223		43A90873F01	Bush, Roller
225	4-C	41A90877F01	Spring, Cam
226		03D40014G62	Screw, W/Washer (M2 × 3)
227	5-C	44A90836F01	Gear (D)
228	5-C	44A90837F01	Gear (E)
229	5-C	04B41345P01	Washer, Lock (M1.2)
230		75B11922W02	Damper, DP-3
231		15A12929W01	Holder, Damper-3
232	4-D	04C42091G06	Ring "E" (M1.5)
233	5-C	04C42091G11	Ring "E" (M2.5)
234	3-C	03S94385F01	Screw, Pan (M1.7 × 2.3)
236	4-C	41A11905W01	Spring, Trigger
237	4-F	04C42091G05	Ring "E" (M2)
238	2-B	07A10921W01	Bracket, Shaft
239	4-A	03A90175F05	Screw, Bind (M2 × 3.7)
240		03S94385F09	Screw, Pan (M2 × 3)
241	4-A	03D40014G75	Screw, W/Washer (M2 × 9)
242	3-B	03D40121T38	Screw, W/Double Washer (M2 × 5)
243	3-E	43A22104W01	Table, Spindle
244	3-B	07B10923W01	Bracket, Screw
245	2-C	47A20146W01	Shaft, Pick-up
246	4-D	43A11901W01	Bush, Triger (A)
247		04B41345P15	Washer, Lock (M1.2)
248	3-D	01B12125W01	Assy., Riv. Pick Chassis
249	3-B	47A10927W01	Shaft, Screw
250	3-B	44A90998F01	Gear, Screw
252	4-B	44A90996F01	Gear, Motor
253	4-G	41B12249W08	Spring, Pull
254	4-C	44A90997F01	Gear, Middle
255		04B41345P02	Washer, Lock (M1.7)
256	4-F	03S94385F23	Screw, Pan (M2 × 5)
257	5-D	03S94385F07	Screw, Pan (M2 × 2)
258	3-C	07C10922W01	Bracket, Motor
259	4-B	41A10928W03	Spring, Shaft
262	5-G	04S40075G12	Washer, Polyslider (M3.1)
263	3-B	41C10925W01	Spring, Nut
264	3-E	14A96087F01	Sheet, Table
265	4-B	84T15149W01	FPC Actuate P.C.Board
266	4-E	01A12222W01	Assy., Clamper Rivet
267	4-E	01B12123W01	Assy., Riv. Arm Clamp
269	3-F	41A11903W01	Spring, Lever
270	3-F	04B41345P04	Washer, Lock (M2.6)
271	3-E	07A30152W01	Bracket, Disc Stopper
272	3-F	41B12249W01	Spring, Pull
273	4-F	07A11468W01	Plate, Top
274	5-C	44A90830F01	Rack, Cam
275	4-F	03S44205G94	Screw, Pan (M1.7 × 2)
277	2-B	47A21175W01	Shaft, Pick-up
279	1-C	41B12249W03	Spring, Pull
280	2-E	41B12249W04	Spring, Pull
281	4-D	41B12249W05	Spring, Pull

NOTE : The parts without part numbers are not supplied.

Symbol No.	Index	Part No.	Description		
282	4-B	43A20208W01	Spacer, LED		
283	4-E	30T73687F19	Parallel Wire (2P)		
284	3-D	01A92321F02	Assy., Bracket		
			Rivet (CLP-LP)		
287	5-G	01T15181W01	Assy., Clutch DP		
288	2-C	75A21138W01	Sheet, Shaft		
289		03A90175F01	Screw, Bind (M2 × 4)		
290		03A90175F02	Screw, Bind (M2 × 3)		
291	4-E	41B90875F07	Spring, Pull		
292	5-F	44A90834F01	Gear (B)		
293	4-F	44A90835F01	Gear (C)		
294	3-C	43A13508W01	Spacer, Shaft		
295	3-F	41A96086F01	Spring, Arm Clamp		
296	3-F	43A41006F01	Spacer, Polyslider		
297	3-C	43A22457W01	Spacer		
or		43A22457W02	Spacer		
298	2-G	75A20928W01	Rubber, Top Chassis		
299	4-F	04B41345P24	Washer, Lock (M2.1)		
300	4-A	43A20208W02	Spacer, LED (A)		
301	4-F	03S94385F14	Screw, Countersink (M2.6 × 3)		
302		03S94385F25	Screw, Pan (M2 × 4)		
303	4-E	75A20128W01	Sheet, Holder		
304	4-G	03S44205G96	Screw, Bind (M2 × 5)		
305	4-G	03S44205G95	Screw, Bind (M2 × 3)		
306	3-E	03S94385F24	Screw, Pan (M2 × 3)		

Miscellaneous

501	3-C	88T15309W01	Pick-up, Unit		
502	4-E	48T16057W02	LED, AN501 (RED)		
503	4-D	01V13100W97	Assy., Motor Load		
504	3-C	59T91005F01	Motor, Spindle		
505	3-B	59T52973F03	Motor, Servo		
506	4-B	48T92913F01	Transistor, Photo PT360		
507	4-F	40T71025F03	Switch, Detector (CAM END)		
508	3-A	40T71025F01	Switch, Detector (LIMIT)		
509	4-F	01A90816F01	Assy., Solenoid DP Frame		

Symbol No.	Index	Part No.	Description		

NOTE : The parts without part numbers are not supplied.

Symbol No.	Index	Part No.	Description		
281	4-D	41B12249W05	Spring, Pull		
282	4-B	43A20208W01	Spacer, LED		
283	4-E	30T73687F19	Parallel Wire (2P)		
284	3-D	01A92321F02	Assy., Bracket Rivet (CLP−LP)		
287	5-G	01T15181W01	Assy., Clutch DP		
288		07A30961W01	Stopper, Shaft (B)		
289		03A90175F01	Screw, Bind (M2 × 4)		
290		03A90175F02	Screw, Bind (M2 × 3)		
291	4-E	41B90875F07	Spring, Pull		
292	5-F	44A90834F01	Gear (B)		
293	4-F	44A90835F01	Gear (C)		
294		03S70494F14	Screw, Pan (M1.7 × 4)		
295	3-F	04S40075G06	Washer, Plyslider (M2.1)		
296	3-F	43A41006F01	Spacer, Polyslider		
297	3-E	03S94385F24	Screw, Pan (M2 × 3)		
298	2-G	75A20928W01	Rubber, Top Chassis		
299	4-F	04B41345P24	Washer, Lock (M2.1)		
300	4-A	43A20208W02	Spacer, LED (A)		
301	4-F	03S94385F14	Screw, Countersink (M2.6 × 3)		
302	2-B	03S94385F25	Screw, Pan (M2 × 4)		
303	4-E	75A20128W01	Sheet, Holder		
304	4-G	03S44205G96	Screw, Bind (M2 × 5)		
305	4-G	03S44205G95	Screw, Bind (M2 × 4)		

Miscellaneous

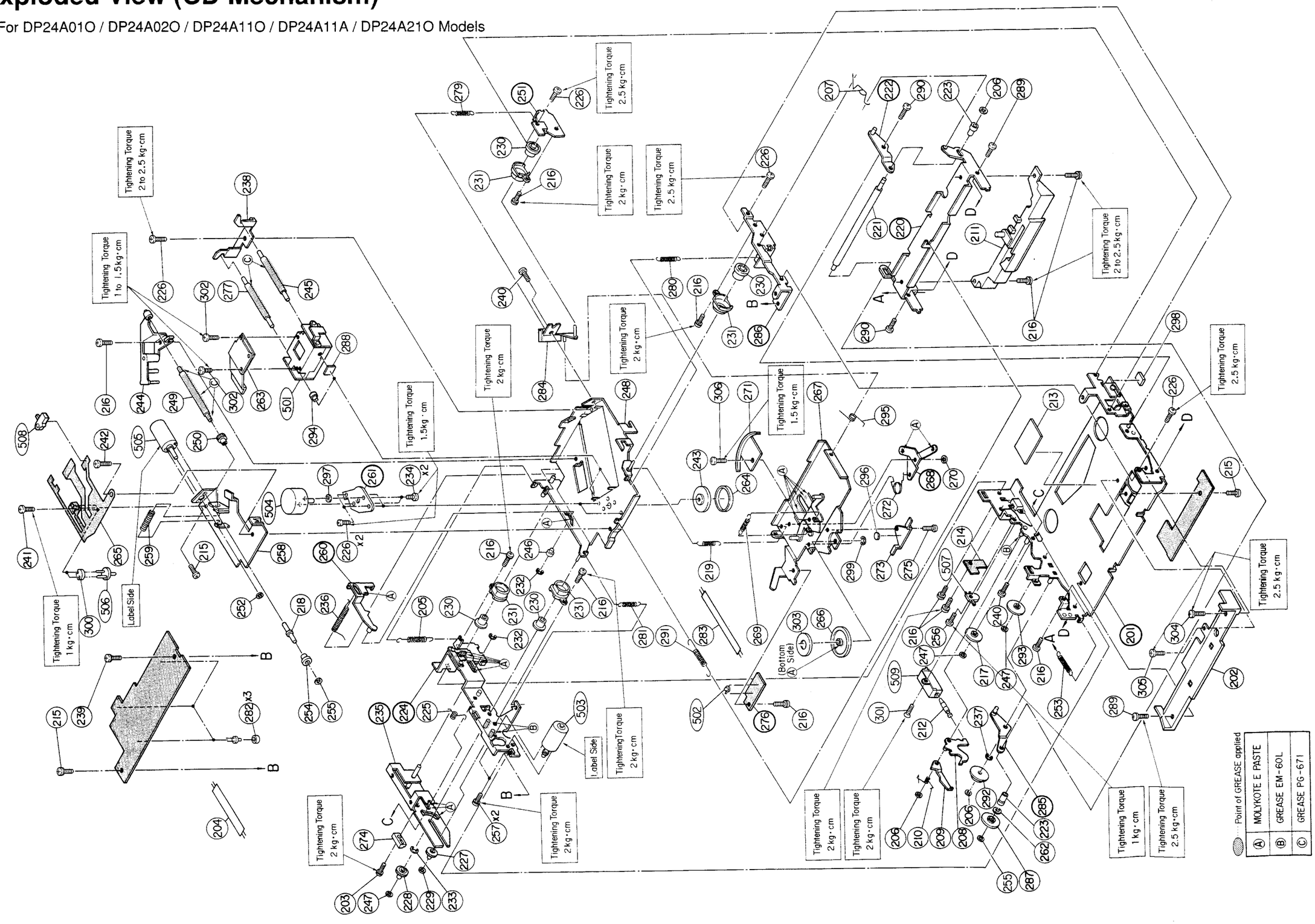
501	3-C	88T15309W01	Pick-up, Unit		
502	4-E	48T16057W02	LED, AN501 (RED)		
503	4-D	01V13100W97	Assy., Motor Load		
504	3-C	59T91005F02	Motor, Spindle		
505	3-B	59T52973F03	Motor, Servo		
506	4-B	48T92913F01	Transistor, Photo PT360		
507	4-F	40T71025F03	Switch, Detector (CAM END)		
508	3-A	40T71025F01	Switch, Detector (LIMIT)		
509	4-F	01A90816F01	Assy., Solenoid DP Frame		

Symbol No.	Index	Part No.	Description		

NOTE : The parts without part numbers are not supplied.

Exploded View (CD Mechanism)

● For DP24A01O / DP24A02O / DP24A11O / DP24A11A / DP24A21O Models



CD Mechanism Assembly Parts List

● For DP24A220 Model

Symbol No.	Index	Part No.	Description
202	4-H	15C13518W01	Guide, Top (DP−2)
203	5-C	03S44205G14	Screw, Pan (M2 × 5)
204	5-B	30T73687F18	Parallel Wire (2P)
205	4-C	41B12249W02	Spring, Pull
206		04B41345P06	Washer, Lock (M2.1)
207	1-E	41A20219W01	Spring, ROL (L)
208	5-F	45A90817F01	Arm, Solenoid (1)
209	5-F	45A90818F01	Arm, Solenoid (2)
210	5-F	41A92364F01	Spring, Solenoid
211	2-F	07B10907W01	Stopper, Disc
212	4-F	47A61544F02	Plunger, RF Solenoid
213	3-G	75A20934W01	Cushion, Magnet (B)
214	3-F	84A92276F01	END Switch (A) P.C. Board
215		03D40014G66	Screw, W/Washer (M2 × 3.5)
216		03D40014G07	Screw, W/Washer (M2 × 4)
217	4-F	44B90838F01	Gear, Cam
218	4-C	46A91007F02	Stud, Gear
219	4-E	41B12249W07	Spring, Pull
221	2-F	49B90822F01	Roller (G)
223		43A90873F01	Bush, Roller
225	4-C	41A90877F01	Spring, Cam
226		03D40014G62	Screw, W/Washer (M2 × 3)
227	5-C	44A90836F01	Gear (D)
228	5-C	44A90837F01	Gear (E)
229	5-C	04B41345P01	Washer, Lock (M1.2)
230		75B11922W02	Damper, DP−3
231		15A12929W01	Holder, Damper−3
232		04C42091G06	Ring "E" (M1.5)
233	5-C	04C42091G11	Ring "E" (M2.5)
234	3-C	27C30861W01	Base, Pick-up
236	4-C	41A11905W01	Spring, Trigger
237	4-F	04C42091G05	Ring "E" (M2)
238	3-D	03S94385F26	Screw Countersink (M1.7×2.6)
239	4-A	03A90175F05	Screw, Bind (M2 × 3.7)
240		03S94385F09	Screw, Pan (M2 × 3)
241	4-A	03S94385F20	Screw, Pan (M2 × 8.5)
242	3-B	03D40121T38	Screw, W/Double Washer (M2 × 5)
243	3-E	43A30923W01	Table, Spindle
244	3-B	07B10923W01	Bracket, Screw
245		47A30925W01	Shaft, Pick-up
246	4-D	43A11901W01	Bush, Triger (A)
247		04B41345P15	Washer, Lock (M1.2)
248	3-D	01B12125W01	Assy., Riv. Pick Chassis
249	3-B	47A10927W02	Shaft, Screw
250	3-B	44A90998F01	Gear, Screw
252	4-B	44A90996F01	Gear, Motor
253	4-G	41B12249W08	Spring, Pull
254	4-C	44A90997F01	Gear, Middle
255		04B41345P02	Washer, Lock (M1.7)
256	4-F	03S94385F23	Screw, Pan (M2 × 5)
257	5-D	03S94385F07	Screw, Pan (M2 × 2)
258	3-C	07C10922W01	Bracket, Motor
259	4-B	41A10928W03	Spring, Shaft
261		03D40014G02	Screw, W/Washer (M2 × 6)
262	3-E	41A10928W04	Spring, Comp
263	3-B	41C10925W02	Spring, Nut
264	3-E	14A96087F01	Sheet, Table
265	4-B	84T15149W01	FPC Actuate P.C.Board
266	4-E	01A31429W01	Assy., Clamper Rivet
267	3-E	01B12123W01	Assy., Riv. Arm Clamp
269	4-E	41A11903W01	Spring, Lever
270	3-F	04B41345P04	Washer, Lock (M2.6)
271	3-E	07A30152W01	Bracket, Disc Stopper
272	3-F	41B12249W01	Spring, Pull
273	4-F	07A11468W01	Plate, Top
274	5-C	44A90830F01	Rack, Cam
275	4-F	03S44205G94	Screw, Pan (M1.7 × 2)
277	3-E	43B30924W01	Spindle, Hub
279	1-C	41B12249W03	Spring, Pull
280	2-E	41B12249W04	Spring, Pull
281	4-D	41B12249W05	Spring, Pull
282	4-B	43A20208W01	Spacer, LED
283	4-E	30T73687F19	Parallel Wire (2P)
284	3-D	01A92321F02	Assy., Bracket Rivet (CLP−LP)
287	5-G	01T15181W01	Assy., Clutch DP
288		07A30961W01	Stopper, Shaft (B)
289		03A90175F01	Screw, Bind (M2 × 4)
290		03A90175F02	Screw, Bind (M2 × 3)
291	4-E	41B90875F07	Spring, Pull
292	5-F	44A90834F01	Gear (B)
293	4-F	44A90835F01	Gear (C)
294		03S70494F14	Screw, Pan (M1.7 × 4)
295	3-F	04S40075G06	Washer, Plyslider (M2.1)
296	3-F	43A41006F01	Spacer, Polyslider
297	3-E	03S94385F24	Screw, Pan (M2 × 3)
298	2-G	75A20928W01	Rubber, Top Chassis
299	4-F	04B41345P24	Washer, Lock (M2.1)
300	4-A	43A20208W02	Spacer, LED (A)
301	4-F	03S94385F14	Screw, Countersink (M2.6 × 3)
302	2-B	03S94385F25	Screw, Pan (M2 × 4)
303	4-E	75A20128W01	Sheet, Holder
304	4-G	03S44205G96	Screw, Bind (M2 × 5)
305	4-G	03S44205G95	Screw, Bind (M2 × 4)

Miscellaneous

Symbol No.	Index	Part No.	Description
501	3-C	88T15309W01	Pick-up, Unit
502	4-E	48T16057W02	LED, AN501 (RED)
503	4-D	01V13100W97	Assy., Motor Load
504	3-C	59T91005F02	Motor, Spindle
505	3-B	59T52973F03	Motor, Servo
506	4-B	48T92913F01	Transistor, Photo PT360
507	4-F	40T71025F03	Switch, Detector (CAM END)
508	3-A	40T71025F01	Switch, Detector (LIMIT)
509	4-F	01A90816F01	Assy., Solenoid DP Frame

NOTE : The parts without part numbers are not supplied.

CD Mechanism Assembly Parts List

● For DP22A07O/DP22A08O/DP22A31O/DP22A32O Models

Symbol No.	Index	Part No.	Description
202	4-H	15C13518W01	Guide, Top (DP-2)
203	5-C	03S44205G14	Screw, Pan (M2×5)
204	5-B	30T73687F18	Parallel, Wire (2P)
205		03A90175F01	Screw, Bind (M2×4)
206		04B41345P06	Washer, Lock (M2.1)
207	1-E	41A20219W01	Spring, ROL
208	5-F	45A90817F01	Arm, Solenoid. (1)
209	5-F	45A90818F01	Arm, Solenoid. (2)
210	5-F	41A92364F01	Spring, Solenoid.
□ 211	2-F	07B10907W02	Stopper, Disc
☆ 211	2-F	07B10907W02	Stopper, Disc
◇ 211	2-F	07B10907W02	Stopper, Disc
212	4-F	47A61544F02	Plunger, F/R
213	4-F	03S94385F14	Screw, Countersink (M2.6×3)
214	4-F	84A92276F01	END Switch (A) P.C. Board
215		03D40014G66	Screw, W/Washer (M2×3.5)
216		03D40014G07	Screw, W/Washer (M2×4)
217	4-F	44B90838F01	Gear, Cam
218	4-B	46A91007F01	Stud, Gear
219	4-E	41B12249W07	Spring, Pull
221	2-F	49B90822F01	Roller (G)
223		43A90873F01	Bush, Roller
225	4-C	41A90877F01	Spring, Cam
226		03D40014G62	Screw, W/Washer (M2×3)
227	5-C	44A90836F01	Gear (D)
228	5-C	44A90837F01	Gear (E)
229	5-C	04B41345P01	Washer Lock (M1.2)
230		75B11922W02	Damper, DP-3
231		15A12929W01	Holder, Damper DP-3
232		04C42091G06	Ring "E" (M1.5)
233		04C42091G11	Ring "E" (M2.5)
234	3-D	03S94385F01	Screw, Pan (M1.7×2.3)
236	4-B	41A11905W01	Spring, Trigger
237	3-F	04B41345P04	Washer, Lock (M2.6)
239		04B41345P24	Washer, Lock (M2.1)
240		03S94385F09	Screw, Pan (M2×3)
241		04B41345P15	Washer, Lock (M1.2)
242	3-F	30T73687F14	Paralel, Wire (3P)
243	3-E	43A22104W01	Table, Spindle
244	3-A	07A90992F01	Bracket, Screw
245	3-D	47A91004F01	Shaft, Pick-up
246	4-D	43A11901W01	Bush, Trigger (A)
247		03S94385F10	Screw, Pan (M2×4)
248	3-E	07A92196F01	Bracket, Flex Wire
249	3-C	03A91001F01	Shaft, Screw
250	3-C	44A90998F01	Gear, Screw
252	4-B	44A90996F01	Gear, Motor
253	4-G	41B12249W08	Spring, Pull
254	4-B	44A90997F01	Gear, Middle
255	4-B	04B41345P13	Washer, Lock (M1.7)
256	4-F	03S94385F23	Screw, Pan (M2×5)
△ 257	1-A	03S44205G42	Screw, Pan (M2.6×4)
□ 257	1-A	03S44205G42	Screw, Pan (M2.6×4)
◇ 257	1-A	03S44205G42	Screw, Pan (M2.6×4)
258	3-B	01V91700F07	Assy., Motor Unit
259	3-A	41A90999F01	Spring, Screw
261	1-C	41B21241W02	Spring, Pull
262	2-C	30T92773F01	Cable, Flex (16P)
263	2-B	26A94948F01	Shield
△ 263	2-B	26A94948F01	Shield
□ 263	2-B	26A94948F01	Shield
◇ 263	2-B	26A94948F01	Shield

Notes : The parts without part numbers are not supplied.
△ : For DP22A07O model only, □ : For DP22A08O model only, ☆ : For DP22A31O model only,
◇ : For DP22A32O model only, Others : Common

Symbol No.	Index	Part No.	Description
264	3-E	14A96087F01	Sheet, Table
265	4-B	84T15747W01	FPC Actuator
266	4-E	01A12222W01	P. C. Board Assy., Clamper Rivet
267	3-E	01B12123W01	Assy., Riv. Arm Clamp
269	3-F	41B12249W01	Spring, Slider
270		43A90995F01	Stopper, Shaft
271	3-E	07A30152W01	Bracket, Disc Stopper
272	4-E	41A11903W01	Spring, Lever
273	4-F	07A11468W01	Piate, Top
274	5-C	44A90830F01	Rack, Cam
275	4-F	03S44205G94	Screw, CounterSink (M2.6 × 8)
△ 277	2-C	01V23100W27	Assy., Pick-up Unit-S2
□ 277	2-C	01V24900W02	Assy., Pick-up Unit-S2
☆ 277	2-C	01V24900W02	Assy., Pick-up Unit-S2
◇ 277	2-C	01V24900W02	Assy., Pick-up Unit-S2
279	4-C	41B21241W01	Spring, Pull
280	2-E	41B21241W03	Spring, Pull
281	4-D	41B21241W04	Spring, Pull
282	5-B	43A20208W01	Spacer, LED
283	4-E	30T73687F20	Parallel, Wire (2P)
284	3-D	01A92321F02	Assy., Bracket, Rivet (CLP-LP)
287	5-F	01T15181W01	Assy., DP Clutch
288	5-F	04B41345P02	Washer, Lock (M1.7)
290		03A90175F02	Screw, Bind (M2×3)
291	4-E	41B90875F07	Spring, Pull
292	5-F	44A90834F01	Gear (B)
293	4-F	44A90835F01	Gear (C)
295	4-D	43A20208W03	Spacer, LED (A)
296	4-E	75A20128W01	Sheet, Holder
297		03S94385F10	Screw, Pan (M2×4)
298	3-B	03S94385F12	Screw, Pan (M2.6×6)
299	3-A	43A41006F05	Spacer, Polyslider
300	3-C	07A90993F01	Bracket, Pick-up
301	2-D	01A90994F01	Spring, Nut
302	3-D	03S94385F03	Screw, Pan (M1.7×1.8)
303	3-E	84T90887F01	FPC PHOTO P. C. Board
304	3-D	14S71058F40	Insulator, Cover
305	3-D	03S94385F06	Screw, Pan (M2×1.8)
306	3-B	41A94452F01	Spring, Motor
307	3-E	14A28008W01	Spacer
308	3-F	41A96086F01	Spring, Arm Clamp
309	3-F	43A41006F01	Spacer, Polyslider
310	3-E	03S94385F24	Screw, Pan (M2 × 3)
311	4-G	03S44205G96	Screw, Bind (M2 × 5)
312	4-G	03S44205G95	Screw, Bind (M2 × 4)

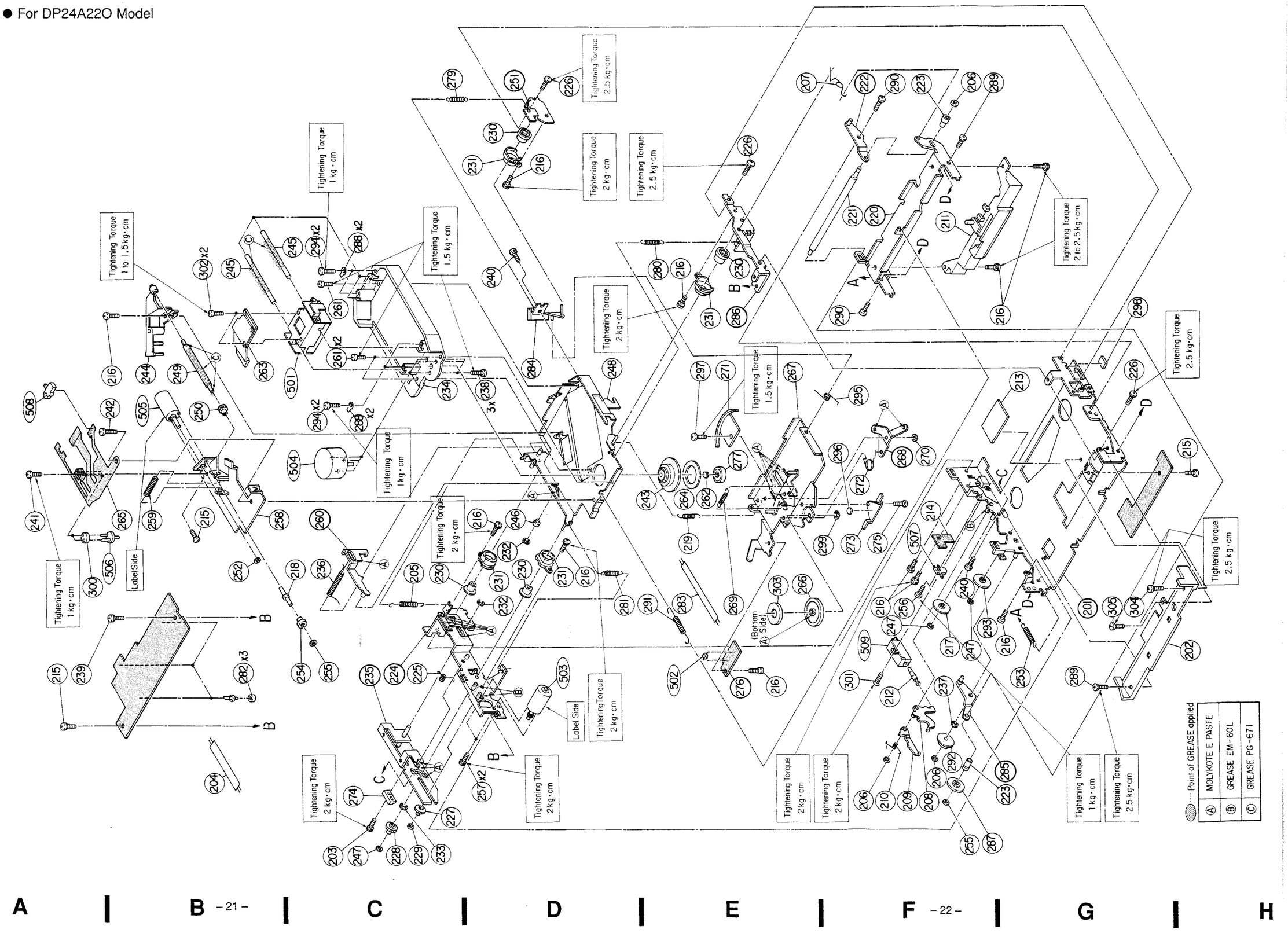
Miscellaneous

501	3-C	88T90878F01	Pick-up, Unit
502	4-E	48T16057W02	LED, AN501-B1 (RED)
503	4-D	01V21900W45	Assy., Motor Load
504	3-B	59T90879F01	Motor, Servo
505	3-C	59T91005F01	Motor, Spindle
506	3-D	48T92913F01	Transistor, Photo PT360
507	4-F	40T71025F03	Switch, Detector
508	3-B	40T71025F01	Switch, Detector
509	4-F	01A90816F01	Assy., Solenoid DP Frame

Notes : The parts without part numbers are not supplied.
△ : For DP22A07O model only, □ : For DP22A08O model only, ☆ : For DP22A31O model only,
◇ : For DP22A32O model only, Others : Common

Exploded View (CD Mechanism)

● For DP24A22O Model



Disassembly Instructions

● For DP22A07O／DP22A08O／DP22A31O／DP22A32O models

1. Removal of Main P. C. Board

(1) Unsolder the solder (a) as shown in Figure 24.
(2) Remove two screws marked "○" as shown in Figure 24.
(3) Disconnect all connectors from the Main P. C. Board while lifting up the Main P. C. Board A section.

Note : When unsoldering the solder (a), take care not to break the parallel wire.

2. Removal of Interface P. C. Board

(1) After removing the Main P. C. Board, unsolder the solder (b) as shown in Figure 25.
(2) Remove two screws marked "×" as shown in Figure 25.
(3) Remove two jumper wires connected to the loading motor.

Note : When unsoldering the solder (b), take care not to break the parallel wire.

3. Removal of Sensor P. C. Board

(1) Unsolder the solder (c) as shown in Figure 26.
(2) Remove one screw marked "△" as shown in Figure 26.

Note : When unsoldering the solder (c), take care not to break the parallel wire.

4. Removal of End Switch P. C. Board

(1) Unsolder the solder (d) and (e) as shown in Figure 27.
(2) Remove two screws marked "□" as shown in Figure 27.

Note : When unsoldering the solder (d), take care not to break the parallel wire.

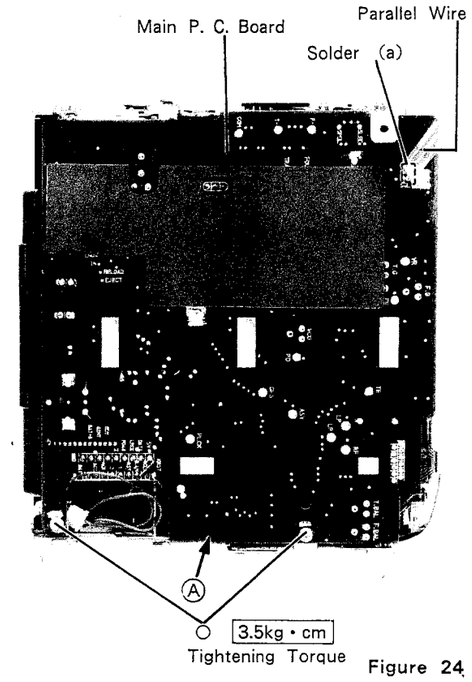


Figure 24

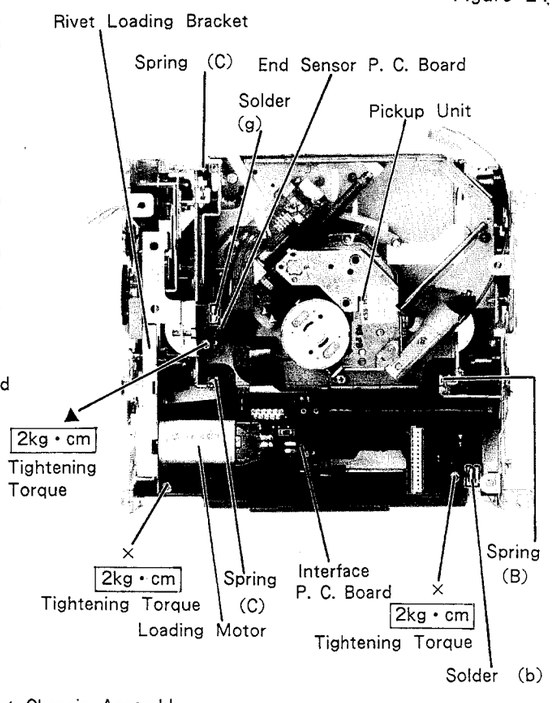


Figure 25

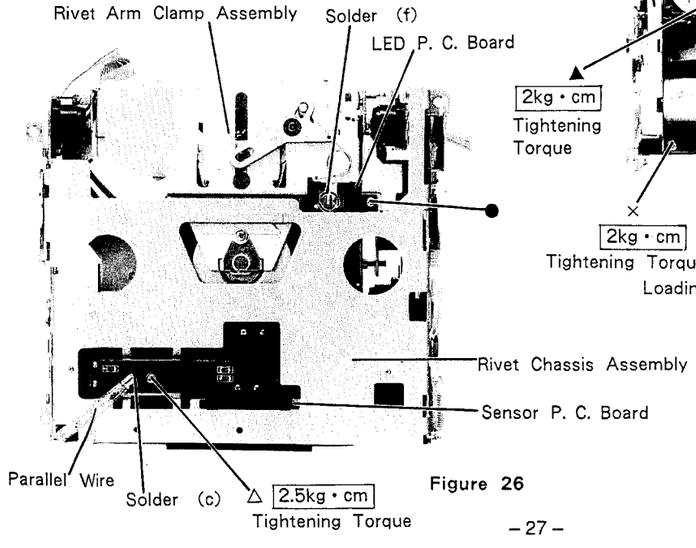


Figure 26

5. Removal of LED P. C. Board

(1) Unsolder the solder (f) as shown in Figure 26.
(2) Remove one screw marked "●" as shown in Figure 26.

Note : When unsoldering the solder (f), take care not to break the parallel wire.

6. Removal of End Sensor P. C. Board

(1) After removing the Main P. C. Board, unsolder the solder (g) as shown in Figure 25.
(2) Remove one screw marked "▲" as shown in Figure 25.

Note : When unsoldering the solder (g), take care not to break the parallel wire.

7. Removal of Damper (L) Bracket

(1) After removing the Main and Interface P. C.Boards, remove one spring (A) as shown in Figure 28.
(2) Remove one screw marked "■" as shown in Figure 28.
(3) Remove the damper from the Pickup Unit shaft, and the bracket can be removed.

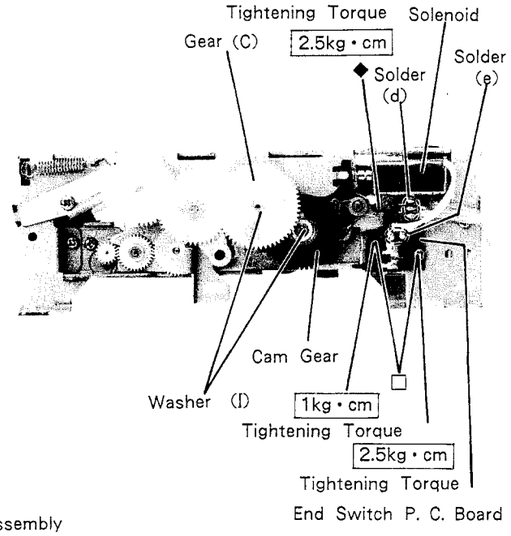


Figure 27

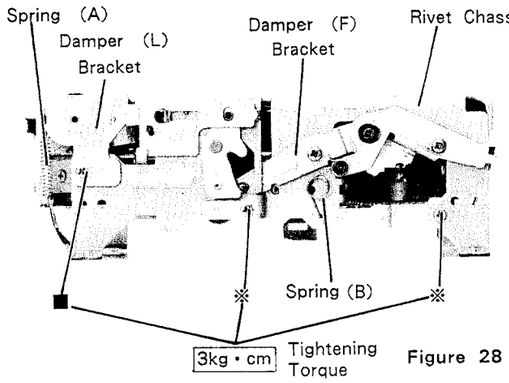


Figure 28

8. Removal of Damper (F) Bracket

(1) After removing the Main and Interface P. C. Boards, remove two springs (B) as shown in Figures 25 and 28.
(2) Remove two screws marked "※" as shown in Figure 28.
(3) Remove the damper from the Pickup Unit shaft, and the bracket can be removed.

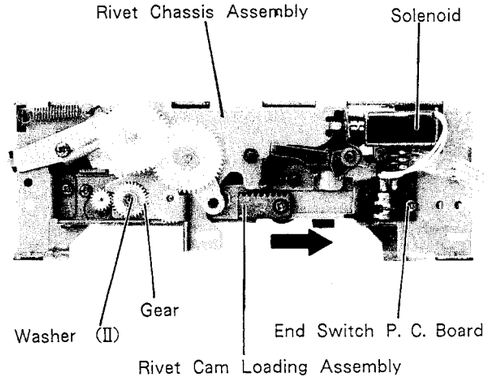


Figure 29

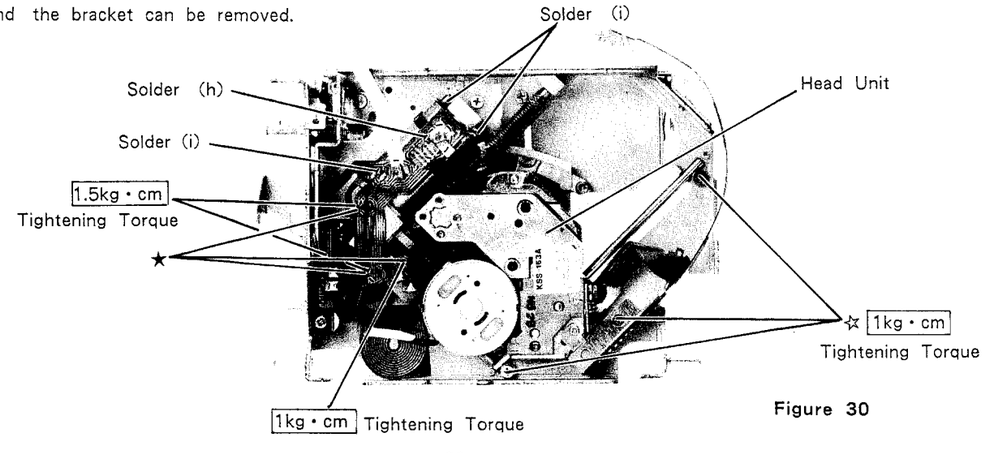
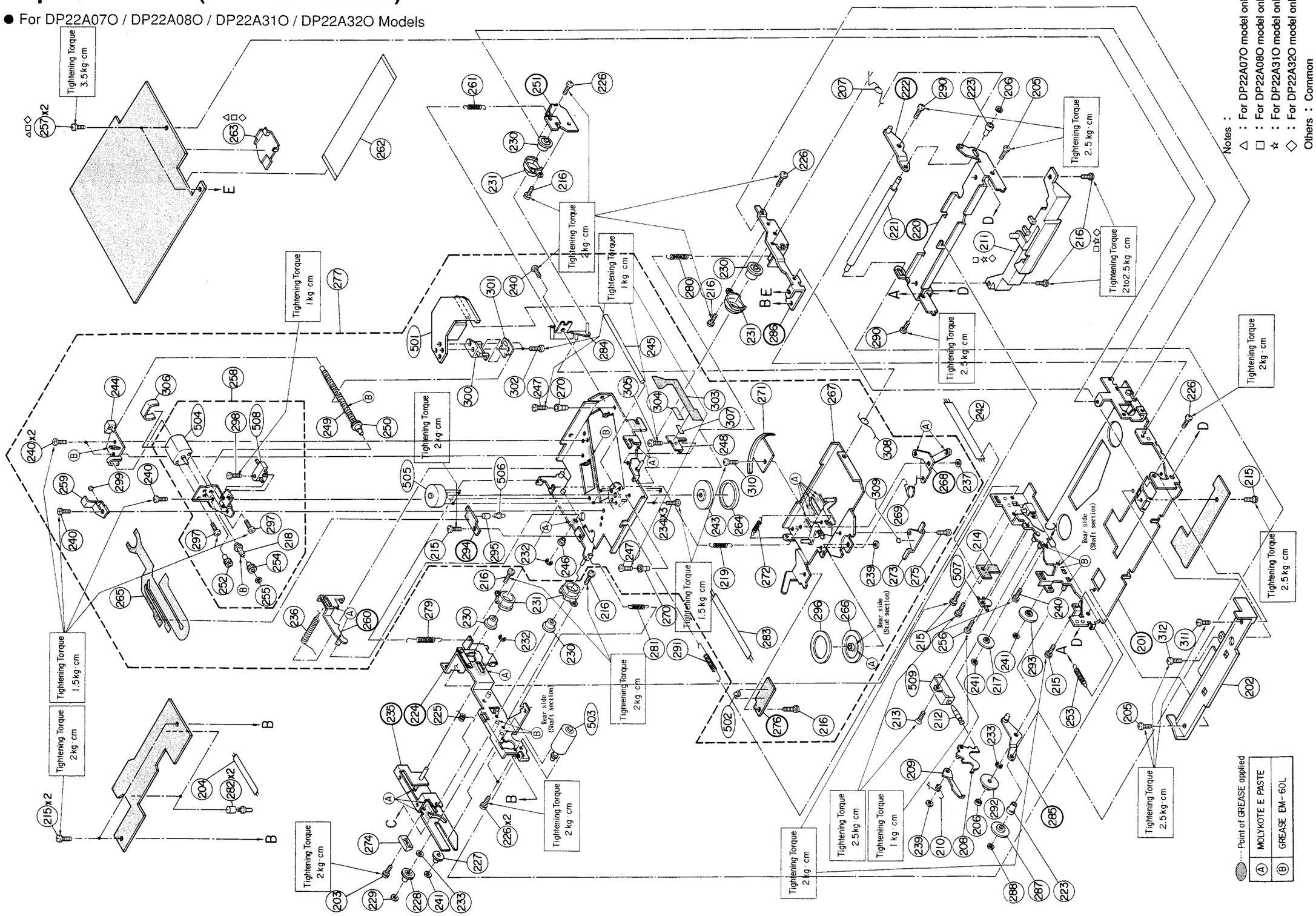


Figure 30

Exploded View (CD Mechanism)

● For DP22A07O / DP22A08O / DP22A31O / DP22A32O Models


Notes :
△ : For DP22A07O model only
□ : For DP22A08O model only
☆ : For DP22A31O model only
◇ : For DP22A32O model only
Others : Common
Tightening Torque 3.5 kg · cm
Tightening Torque 1 kg · cm
Tightening Torque 2 kg · cm
Tightening Torque 1.5 kg · cm
Tightening Torque 2.5 kg · cm
Tightening Torque 2 to 2.5 kg · cm
Rear side (Shaft section)
Rear side (Stud section)
Point of GREASE applied
Ⓐ MOLYKOTE E PASTE
Ⓑ GREASE EM-60L

9. Removal of Pickup Unit

(1) After removing the both bracket for the damper (L) and (F), remove the washer (I), cam gear and gear (C) as shown in Figure 27.

(2) Remove three screws marked "*", and the Pickup Unit with Rivet Loading bracket Assembly can be removed as shown in Figure 31.

(3) Remove two springs (C), remove the damper from the Pickup Unit shaft, and then the Rivet Loading Bracket Assembly can be removed as shown in Figure 25.

10. Removal of Head Unit

(1) Unsolder solder (h) as shown in Figure 30.

(2) Remove three screws marked "☆" as shown in Figure 30.

11. Removal of Servo Motor P. C. Board

(1) After removing the Head Unit, unsolder three solder (i) as shown in Figure 30.

(2) Remove three screws marked "★" as shown in Figure 30.

12. Removal of Loading Motor

(1) After removing the Rivet Loading Bracket, remove one washer (II) and gear as shown in Figure 29.

(2) After moving the Rivet Cam Loading Assembly in the arrow direction, remove two screws marked "◇" as shown in Figures 29 and 31.

13. Removal of Solenoid

(1) Unsolder the solder (e) as shown in Figure 27.

(2) Remove one screw marked "◆" as shown in Figure 27.

Precautions during Disassembling and Assembling

1) Be sure to use brand-new washer and do not use any washer which was previously used. The new washer should not have peeling on cleavage.

2) When performing soldering, take care that temperature of the iron tip will not exceed 320℃ and soldering time should be less than 3 seconds. Also make sure there is no defect soldering such as loose solder, solder short and foil breakage.

3) Useful hints for remounting the can gear and gear (C).

① Set the Rivet Loading can Assembly to theloading position as shown in Figure 33.

② Engage the gear can with the gear (C) as shown in the Figure 32, and mount them on the shafts (A) of the Arm Load (R) Assembly as shown in Figure 33.

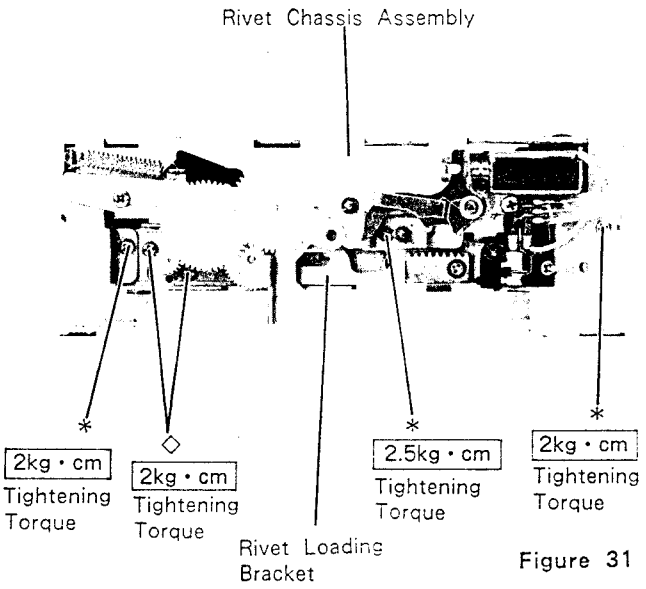


Figure 31

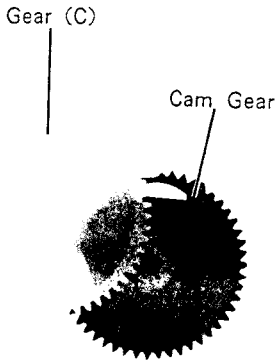


Figure 32

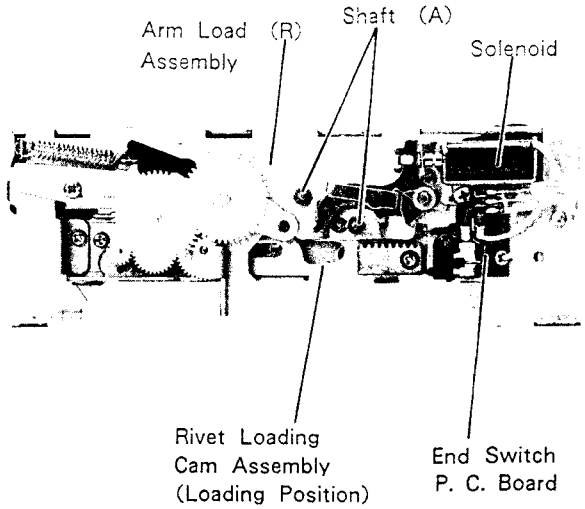


Figure 33

ALPINE ELECTRONICS INC.
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